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Abstract

This manual contains a description of microteaching and the format to be used at the Ottawa Microteaching Clinic. Three background papers, which include data on programs already in existence, are "Microteaching: An Intermediate Step," with a 21-item annotated bibliography, by Patrick Babin; "An Overview of Microteaching" (I/D/E/A, Charles Kettering Foundation); and "A Critical Look at Microteaching" by Earl Seidman. These are followed by a self-instructional programed unit on "Behavioral Objectives; Benjamin Bloom's Cognitive Domain" designed to enable students to define and identify instructional objectives and categories for each, and to analyze curriculum plan in terms of high and low order cognitive activity. The explanation of the Ottawa program contains course description, text, microteaching and training lecture schedules, record forms, and instructions for the various phases: creating the setting, microteaching sequence, two-station cycle, large-group skill presentations, actual microteaching process, videotaping, and diagnostic presentation. A section on teaching skills included in the program covers specific techniques under five categories: Response Repertoire, Questioning Skills, Creating Student Involvement, Increasing Student Participation, Presentation Skills. Evaluation sheets for each of 15 skills contain questions for students, supervisors, and teachers. [Not available in hard copy due to marginal legibility of original document. (JS)

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STUDENT'S GUIDE
TO
MICROTEACHING

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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PREFACE

Effective in September 1969, the Faculty of Education at the University of Ottawa will utilize microteaching as part of its secondary education program.

This facility, to be offered both as a preliminary to and during the student-teaching period, will provide students a training and diagnostic tool which we hope will help equip them with skills and techniques of self-appraisal and self-understanding.

First developed by the School of Education at Stanford University in 1963, microteaching allows teachers to apply clearly defined teaching skills to prepared lessons in a planned series of five to ten minute encounters with a small group of students, followed by self and group-appraisal via videotape.

This publication, basically a student manual, provides a comprehensive description of microteaching, the format to be implemented at this university, data on programs already in existence, a unit stressing the importance of clearly stated behavioral objectives in teaching, information relative to the specific teaching skills included in the program, and bibliographical entries.

We hope that students, in particular, will benefit from its contents and see fit to offer suggestions which may enhance its effectiveness and relevancy.

Dr. Lionel Desjarlais,
Dean, Faculty of Education,
University of Ottawa,
OTTAWA, Ontario, Canada.

August, 1969.

INTRODUCTION

This publication has been prepared by the Teacher Education Section of the Faculty of Education, University of Ottawa, in an effort to facilitate your microteaching involvement.

As you peruse its contents, you will note that along with background information there is an explanation of the microteaching clinic, the specific teaching skills to be highlighted during the course, and a programmed unit focusing on behavioral objectives.

Microteaching has potential in improving teacher effectiveness. Let us remember, however, that it is but one technique; there are many others. Let us also bear in mind that the label "microteaching" is meaningless unless a dynamic implementation of the philosophy has transpired. The technique is not offered as a panacea which will ascertain teaching success. It is presented in an attempt to expand the beginning teacher's repertoire of teaching skills. Microteaching is not meant to replace student teaching; it is more aptly described as reinforcement--a pre-induction booster.

We hope that a spirit of mutual give-and-take will develop in the microteaching clinic. This becomes a necessary ingredient in a program of this nature where so much evaluation (individual and group) is involved.

AN
INTERMEDIATE
STEP

MICROTEACHING: AN INTERMEDIATE STEP

Under the umbrella of pedagogy, the colleges and universities of this country have supposedly been preparing teachers. Exactly what has encompassed this pedagogy other than a few methods courses and varying degrees of apprentice training? Have novices actually been taught how to teach? Or have beginning teachers been expected to teach as they were taught or perhaps to ape the cooperating or supervising teacher? Could the teaching act be better defined and handled on a more scientific basis? In other words, could a real technology of teaching be developed?

Concerned, Skinner stated:

> The most widely publicized efforts to improve education show an extraordinary neglect of method. Learning and teaching are not analyzed, and almost no effort is made to improve teaching as such.[1]

Arguing that competence in practice should be gained as an application of theory to the practical problems of instruction, Johnson observed that:

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[1] B. F. Skinner, The Technology of Teaching, New York, Appleton-Century-Crofts, 1968, p. 93.

> Traditionally teacher education has been organized to teach the theory (methods courses prerequisite to student teaching) before the practice (student teaching). This procedure violates one of education's own most publicized tenets, that theory and practice are best learned together, thus giving rise to criticisms of inconsistency between doctrine and practice.[2]

A necessary third ingredient, along with increased stress on curricular changes and organizational innovations, according to Johnson[3], is a new stress on the quality and nature of instruction. He offered two modifications in procedure toward demonstrating the validity of the proposition that teaching does make a difference. These were:

> Teaching techniques. The term 'teaching techniques' refers to specific teacher behaviors designed to influence learners in a predetermined direction. The implementation of the idea requires that both teacher and learner behaviors be operationally defined and that the desired interaction between teacher and learner be derived from a theoretical rationale. (...)
>
> An intermediate step. (...) What has been needed is an intermediate research environment located between the conceptualization of a methodological innovation and the complexities of a field study (...).[4]

An earlier appeal for improved teacher education came in 1963 as a result of Conant's study[5]. That same year, Howard[6] called for a conceptual scheme for teacher education--one that would take the relevant theories regarding the nature of learners and content into account.

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[2] William D. Johnson, "Teaching Techniques Laboratory", in An Evaluative Report of the Laboratory Portion of the Augmented Professional Semester, Fall 1967, University of Illinois, May 1968, p. 19.

[3] William D. Johnson, "Microteaching: A Medium in Which to Study Teaching", in The High School Journal, Vol. 51, No. 2, issue of November 1967, p. 86.

[4] Ibid., p. 88.

Also in 1963, long before Skinner's The Technology of Teaching[7] was published, the School of Education at Stanford University in California instituted a program aimed at the development of specific classroom skills and behavior patterns required by the teacher for effective instruction.

Developed by Bush and Allen[8], this teacher-education technique allowed teachers to apply clearly defined teaching skills to carefully prepared lessons in a planned series of five- to ten-minute encounters with a small group of real pupils, often with an opportunity to observe the results on videotape.

Since its inception at Stanford, microteaching, as the above technique was called, has gained in popularity until today adaptations of it are found on the campuses of many United States colleges and universities including Brigham Young University, the University of California, Chadron State College, Chicago State College, Colorado State College, Eastern Illinois University, Fort Hays Kansas State College, University of Illinois, Indiana University, University of Massachusetts (where Dwight Allen, the "father" of microteaching, is now Dean of the School of Education), Montana State University, Northern Arizona University, University of Notre Dame, Notre Dame-St. Mary's, University of Pittsburgh, San Jose State College, Stout State University, Utah State University, and Wayne State University. Two regional laboratories, the Far West Laboratory for Educational Research and Development and the Rocky Mountain Educational Laboratory, are also adapting microteaching techniques to pre-service and in-service teacher education.

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[5] James B. Conant, The Education of American Teachers, New York, McGraw-Hill Book Company, Inc., 1963, p. ix-275, passim.

[6] Elizabeth Z. Howard, "Needed: A Conceptual Scheme for Teacher Education", in The School Review, Vol. 71, No. 1, issue of Spring 1963, p. 13.

[7] B. F. Skinner, op. cit., p. ix-271, passim.

[8] Robert N. Bush and Dwight W. Allen, Micro-Teaching: A Description, Stanford, California, Stanford University School of Education, 1968, (no pagination).

In this article, the author purports to explain what microteaching is, present a rationale for its use as a pre-service procedure, and state advantages and disadvantages of the technique.

What is microteaching? Meier defined it:

> (...) as a scaled-down sample of teaching. The term 'micro' not only denotes the reduction in lesson and class size but also adds the scientific connotation of precision, in the sense that microteaching, by honing down the edge of observation to a fine-cutting process, enables an objective quantitative and qualitative analysis of the recorded behavior. Microteaching is essentially an opportunity for either preservice or in-service teachers to develop and improve their pedagogical skills with a small group of pupils (3 to 7) by means of brief (3- to 7-minute) single-concept lessons, which are recorded on videotape for reviewing, responding, refining, and reteaching. An effort is made to analyze the many aspects of a teacher's performance, to ferret out those most amenable to change, and to concentrate on their perfection one at a time.[9]

Variations in definitions are indicative of the ease with which the technique may be adapted to diverse situations. That idea was reiterated by Allen when he wrote:

> The concept is simple, adaptable, and in view of the results to date powerful. A precise definition of the micro-teaching context can vary according to the purposes and resources of the user. Some of the variables which can be adjusted include lesson length, number of pupils, types of pupils, number of reteaches, the amount and kind of supervision, and the use of video tape.[10]

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[9] John H. Meier, "Rationale for and Application of Microtraining to Improve Teaching", in The Journal of Teacher Education, Vol. 19, No. 2, issue of Summer 1968, p. 146.

[10] Dwight W. Allen and Richard Clark, Jr., "Microteaching: Its Rationale", in The High School Journal, Vol. 51, No. 2, issue of November 1967, p. 75.

At Brigham Young University[11], microteaching was expanded to include the trainee's classmates who assisted the college instructor in the evaluation of the microteaching done by each member of the class.

The technique has given rise to minilessons and minicourses which in reality are filmed model lessons for teachers to help them improve in basic teaching skills.[12]

What is the rationale for microteaching?

Teaching, because it is an extremely complex process dealing with many variables, has been difficult to analyze.

Today educators are focusing on pupil and teacher behavior as a possible means of analyzing the teaching act. Repetitive observation of classroom teachers has shown a recurrence of certain skills, expressions, and actions. If, through extensive research, these teacher behaviors can be identified, why couldn't training protocols be developed in order to produce proficiency among novices? If the teaching act can be broken down into simpler, more easily trainable skills and techniques, does it not stand to reason that its complexities will be minimized? Or at least made more comprehensive? The same holds true of pupil behavior as shown by Wright[13]. The interest bearing on identifying these behaviors and recording them has given rise to Flanders'[14] interaction analysis and Medley and Mitzel's[15] OScAR (Observation Schedule and Record) along with a host of other measuring devices.

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[11] W. Dwayne Belt, "Micro Teaching: Observed and Critiqued by a Group of Trainees", paper presented at the American Educational Research Association Annual Convention, New York City, February 1967, p. 1.

[12] Ella Callista Clark, "Innovations in Teaching the Teacher", in Catholic School Journal, Vol. 68, No. 6, issue of June 1968, p. 28-29, passim.

> Research has already indicated some of these teacher behaviors which tend to produce desired pupil behaviors. For example, if teachers reinforce students both verbally and non-verbally when they participate in classroom discussions, irrespective of the correctness of their responses, students will participate more often in classroom discussions. If teachers wish to get students to participate more often in class they should discover what is reinforcing for particular students and then reinforce the students when they do participate in class. It would seem that the more techniques a teacher has at his disposal for reinforcing students the better his chances for getting good pupil participation.[16]

The Stanford educators considered it essential that specific skills in teaching be developed for inclusion in their teacher training program. Many skills were defined and a number considered vital were selected for instructional purposes.

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[13] Herbert F. Wright, Recording and Analyzing Child Behavior, New York, Harper and Row, 1967, p. viii-291, passim.

[14] Ned A. Flanders, "Intent, Action and Feedback: A Preparation for Teaching", in The Journal of Teacher Education, Vol. 14, No. 3, issue of September 1963, p. 251-260, passim.

[15] Donald M. Medley, "Experiences with the OScAR Technique", in The Journal of Teacher Education, Vol. 14, No. 3, issue of September 1963, p. 267-273, passim.

[16] James M. Cooper, "Developing Specific Teaching Skills Through Micro-Teaching", in The High School Journal, Vol. 51, No. 2, issue of November 1967, p. 80.

Because they wanted the students to be actively engaged in practicing and refining these teaching skills in experimenting with their own and their professors' ideas, the Stanford staff provided a real teaching arena through the format of microteaching.

Because certain variables (class size, type of pupil, content and length of lesson, physical facilities) could be controlled, the teaching situation held a low risk for both the teachers and pupils. Too often, neophyte teachers have been exposed to unreasonable threats and hurdles which soured their beginning days.

A setting was provided in which beginning teachers could experience involvement with a wide range of student abilities and age levels and develop proficiency in a broad array of teaching skills. Different types of classroom problems were stressed.

An opportunity was provided for individualized instruction of teacher trainees. The microteaching dosage could be varied and the trainee's initial encounter could focus on areas of strength. Special attention was given to the teacher's self-concept and his resulting ability to be an effective person in the classroom.

Some of the learning theory commonalities to the microteaching process of subjecting samples of human behavior to such close scrutiny are now reviewed from the findings of Allen and Clark[17], and Meier[18].

1. When a decision of what to teach must be made, the capacities of the learner (microteaching trainee) must be considered. During training, neophytes concentrate on one teaching skill at a time--the clutter of extensive lesson planning is absent. As he gains proficiency, the trainee will move into more sophisticated lesson content--content in areas of competence.

2. An intrinsically motivated learner learns more easily. Following the initial cosmetic impact of videotape replays and critiques, the trainee has the opportunity to rectify errors and weaknesses observed by himself and others in his teaching. (Cosmetic refers to the superficial aspects of the teaching act such as grooming, facial gestures, hand movements, lighting, *et cetera*.) This immediate opportunity to correct mistakes is preferable to extended periods of living with the weakness.

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[17] D. W. Allen and R. Clark, *op. cit.*, p. 76.

[18] J. H. Meier, *op. cit.*, p. 149-153, *passim*.

3. Excessive motivation may be detrimental. The initial microteaching encounter may be overwhelming to the trainee, particularly to the perfectionist who suddenly sees himself stumble through a class presentation. Narcissistic egos may be bruised, stage fright may appear; the self-encounter may be nerve-racking. The entire process must be handled with acute sensitivity to the individual. The trainee might be encouraged to observe his first recording privately; that first practice session can also be readily erased from the videotape.

4. Learning under the control of reward is preferred. It is stated that the autotelic nature of watching oneself on videotape holds a certain fascination for most people along with subtle rewarding properties of an innate nature. Meier[19] called the setting "(...) an autotelic responsive environment", a phrase used by Omar K. Moore in his research with exceptional children.

> Now, for the first time, we can see immediately how we have performed in teaching. We cannot only see results at once but can practice a given skill over and over in the microteaching studio until we are ready to try it in the classroom.[20]

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[19] John H. Meier and Gerald A. Brudenell, "Interim Progress Report of a Remote Teacher Training Institute for Early Childhood Educators", paper presented at the American Educational Research Association Annual Convention, Chicago, February 1968, p. 1.

[20] Warren Kallenbach, "Microteaching as a Teaching Methodology", from Proceedings, Conference on Instructional Methods and Teacher Behavior, Berkeley, Nov. 21, 1966, p. 1.

5. Success experiences make failure easier to take. The necessary sensitive management of microteaching training must concentrate on the plus factors and not stress weaknesses. The degree of objectivity in diagnosis on the part of the college supervisor and fellow trainees must be kept moderate especially during the initial encounter.

> Reinforcement of desirable teaching behaviors and the concentration of the trainee upon perfecting them often result in the inconspicuous extinction of undesirable or ineffective practices.[21]

6. Goals have to be realistically set. Focusing on the individuality of the program, Meier added:

> Teacher-trainees, just like all individual learners, vary considerably in their capacity for change, and each individual's capabilities must be considered carefully in terms of how large a modification is to be accomplished in a given microlesson.[22]

Is the trainee's behavior modifiable? Is he willing to change? Will he accept it? How much will he accept?

The personal history of the trainee must be studied since it may affect his ability to learn or change. Are past occurrences responsible for the type of behavior displayed in microteaching? Does he appear to be emulating a former teacher? Why does he react so negatively to a particular methodology? Perhaps the personal deficiencies are so overpowering that it would be senseless to expect too much of microteaching.

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[21] J. H. Meier, _op. cit._, p. 151.

[22] _Ibid._

7. Repetitive practice is necessary in overlearning skills which will become part of the student's pedagogical repertoire. Overlearning will insure the ready availability of these skills for future application.

> Otherwise, when the trainee gets on the job and encounters an anxiety-producing situation, the resultant cognitive dissonance will probably be resolved through a return to behaviors characteristic of past similar experiences; the retroactive inhibition caused by the tension frequently causes temporary forgetting of the recently learned techniques.[23]

8. Immediate reinforcement or feedback relative to performance helps the learner. A related commonality is that transfer will be maximized if the learner sees the relationship himself. These two aspects are part of the instant informational feedback of microteaching. New behavior may be accepted, modified, or rejected. Ineffective practices may be discarded before the trainee becomes addicted to them.

9. Numerous distributed practice sessions would seem more valuable than fewer, more extended sessions.

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[23] _Ibid_., p. 152.

> The learning and maintenance of a skill is best accomplished through spaced or distributed practice over a period of time; the intervening time allows for the neurophysiological consolidation of the new data for long-term storage and retrieval. This would suggest that a year's internship, liberally salted with microteaching experiences, would be superior to present student-teaching practices.[24]

Most authors emphasized, as did the Stanford educators, that it is possible to utilize the microteaching technique without a videotape recorder. All were quick to add, however, that the process is facilitated by the use of the equipment. Its value lies in the vivid or subjective record it provides for analysis purposes. These recordings help the trainee to supervise himself, i.e., to analyze his own performance in terms of its strengths and weaknesses.

> Much of the power of videotape recording in microteaching lies in its simplicity and its capacity for instant replays, thus giving the teacher immediate and accurate feedback (...).[25]

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[24] *Ibid.*, p. 153.

[25] D. W. Allen and R. Clark, *op. cit.*, p. 78.

A typical microteaching setting is shown in this diagram. Because of the adaptability of the technique, the arrangement could easily be modified or elaborated.

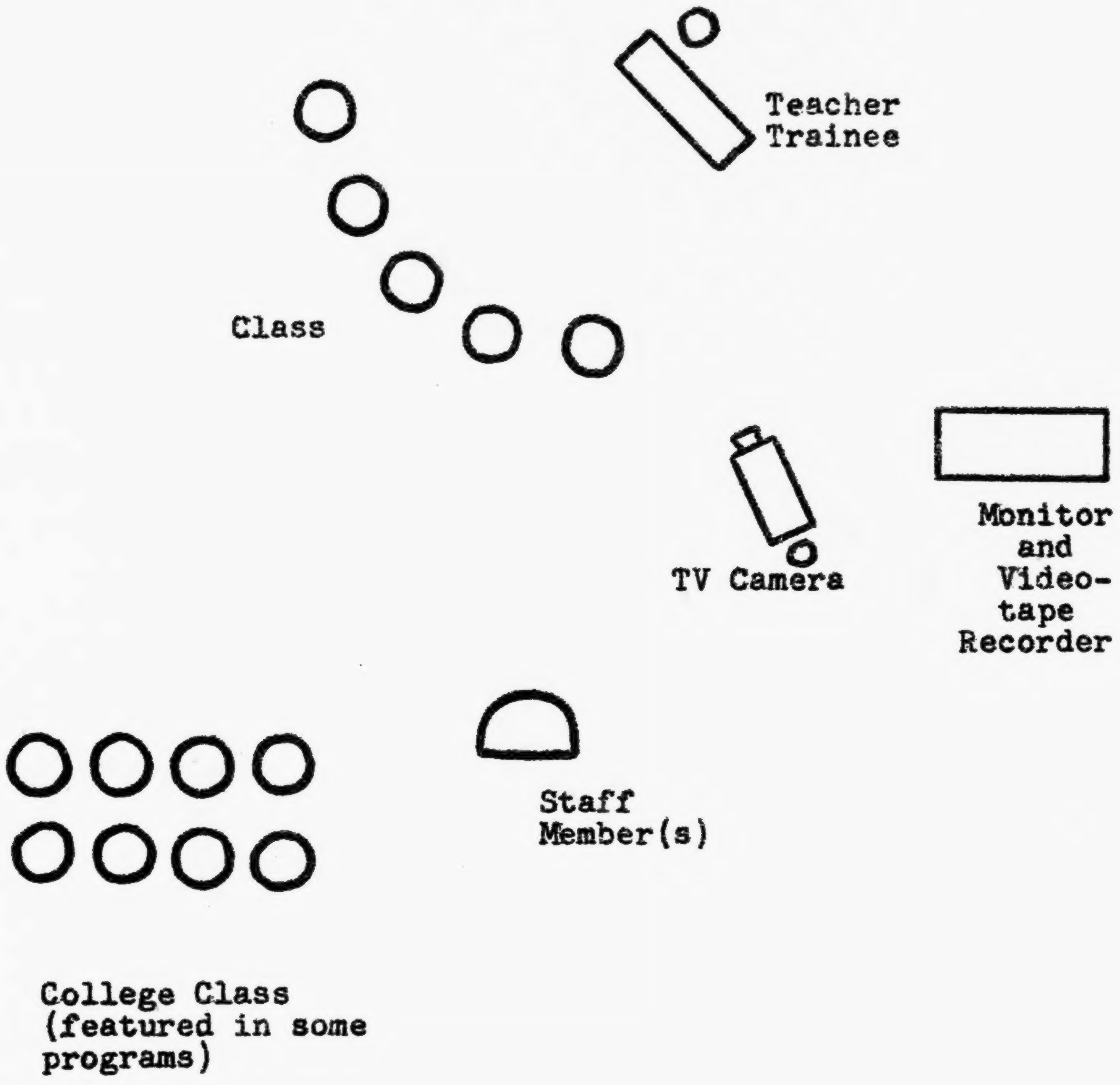
Teacher
Trainee
Class
TV Camera
Monitor
and
Video-
tape
Recorder
Staff
Member(s)
College Class
(featured in some
programs)

Figure 1. - Microteaching Setting.

A microteaching sequence might be traced as this design utilized at Wayne State University in Detroit[26] exemplified:

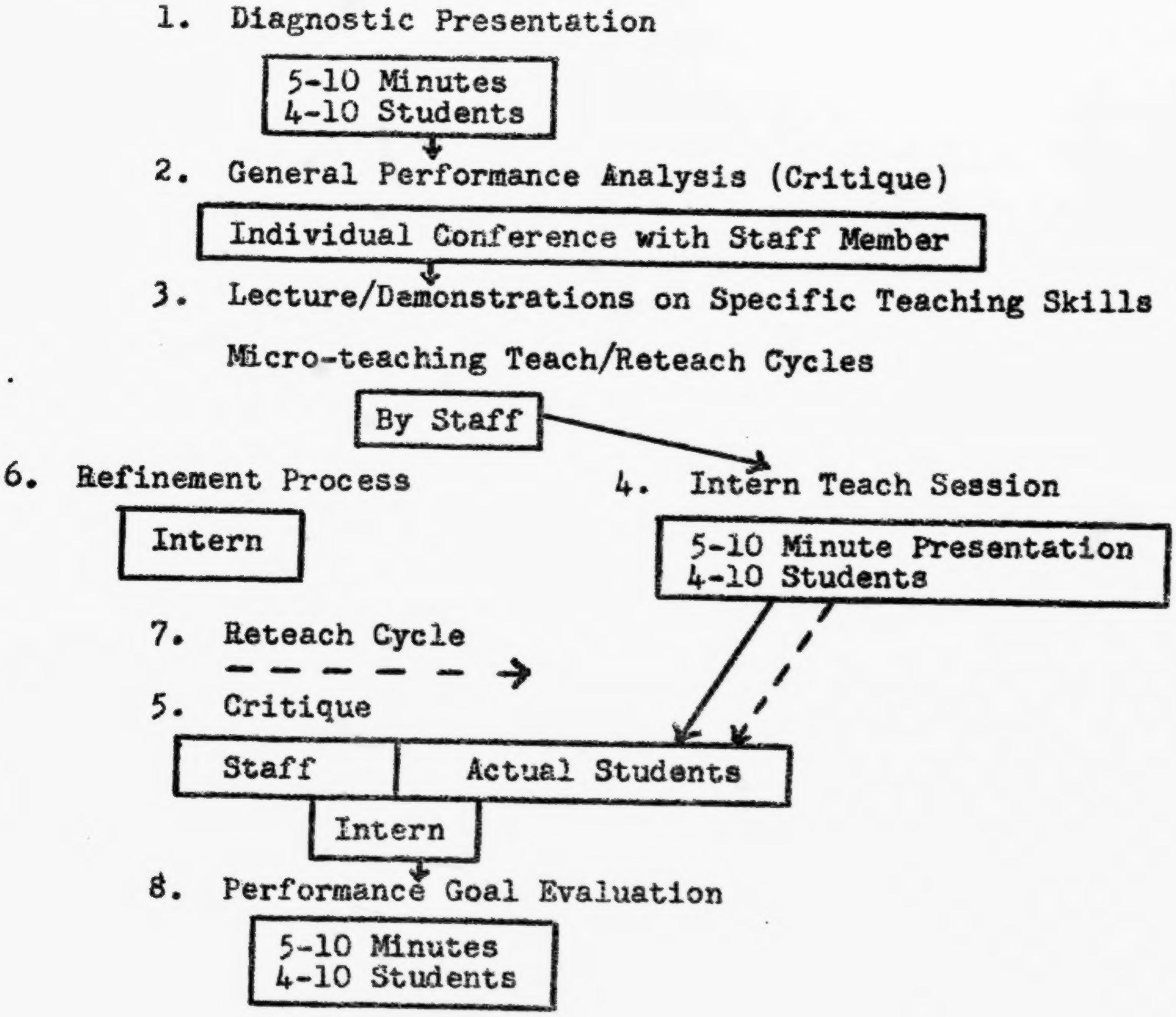
1. Diagnostic Presentation
5-10 Minutes
4-10 Students
2. General Performance Analysis (Critique)
Individual Conference with Staff Member
3. Lecture/Demonstrations on Specific Teaching Skills
Micro-teaching Teach/Reteach Cycles
By Staff
6. Refinement Process
Intern
4. Intern Teach Session
5-10 Minute Presentation
4-10 Students
7. Reteach Cycle
5. Critique
Staff
Actual Students
Intern
8. Performance Goal Evaluation
5-10 Minutes
4-10 Students

Figure 2. - Microteaching Sequence, Wayne State University

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[26] Fred S. Cook and Daniel P. Brown, "Does Micro-Teaching Have a Place in Business Education?", in *Business Education World*, Vol. 48, No. 8, issue of April 1968, p. 8.

The preceding sequence is further explained[27,28]:

1. Diagnostic presentation. On his first day in the clinic, the trainee teaches a brief 5-10 minute lesson which is videotaped. The cosmetic effect of initial taping usually supersedes interest in the quality of the teaching performance. This videotape sampling of the student's performance is usually saved for future reference.

2. General performance critique. At Wayne State University, a general analysis of the intern's performance is made with a staff member (and the intern). The Stanford procedure is to have the pupils and staff members evaluate the trainee.

3. Lecture/demonstrations of specific teaching skills (called the "training phase" at Stanford). These, presented by a trained staff member, stress specific teaching skills as beginning the lesson, pacing the lesson, lesson closure, *et cetera*. Different types of analysis instruments are utilized as part of the appraisal phase. These describe the specific skills and the degree to which the intern will be expected to exhibit them at the completion of the cycle.

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[27] *Ibid*., p. 8-9.

[28] R. N. Bush and D. W. Allen, *op. cit*., (no pagination).

4. Intern "teach" session. During this period, the intern, with adequate preparation, presents a five- to ten-minute lesson focusing on the teaching skill under development to a small group of pupils. Only one teaching skill will be taught.

5. Critique. Following the microteaching episode (No. 4), feedback may be fourfold (depending on the organizational pattern); namely,

a. Staff members present.

b. Students being taught.

c. Intern's classmates.

d. Videotape replay.

All evaluators are usually trained to utilize the same instrument. (It might be mentioned here that most microteaching to this date has applied to secondary school instruction.)

6. Refinement process. Intern is now given time to improve his presentation, incorporating the most relevant suggestions. The cybernetic principles of immediate feedback and immediate opportunity to incorporate that feedback into the teaching act are considered most advantageous.

7. "Reteach" cycle. The refined lesson is then retaught to a group of pupils (usually different) with the feedback cited in No. 5 as followup. The number of cycles may vary for that particular teaching skill depending on

the needs of the individual trainee.

Use of the trainees as observers is considered by many educators as beneficial in that it offers a variety of creative approaches for presenting similar concepts or lessons, expands the evaluative process, sensitizes each trainee to assess his own performance more critically, broadens the experience of the observers and perhaps lessens the number of actual presentations required by each student to change his own teaching behavior.

8. Performance goal evaluation. This culminating experience consists of a final presentation to another small group of students. The videotape is analyzed to determine whether the performance goals of the teaching skills were achieved and to ascertain the ability of the student to commence student teaching.

Most microteaching programs are offered in conjunction with methodology as a prelude to student teaching. On other campuses, microteaching has supplemented part of the formal student teaching. Some schools are offering this scaled-down teaching technique as part of a summer program enabling students to commence their teaching internships in the fall.

Stanford University provided training in both individual lessons (as previously explained) and microclass lessons. The latter are team-taught by a group of four interns in the same subject area. This team, with its supervisor, plans a twelve-day unit in its subject field which includes the objectives, activities, and evaluation. The same group of pupils is kept intact for the entire period.

Much inquiry and research have gone into the precise definition of skills which trainees can focus on in their microteaching sessions. Among the teaching skills which were considered fundamental are:

> 1. The ability to establish rapport with the pupils, and create a sense of involvement with the lesson (...);
>
> 2. The ability to establish appropriate frames of reference which will help pupils grasp the topic and which will expose them to different points of view;
>
> 3. The ability to question pupils in a way that enriches their understanding of the lesson;
>
> 4. The ability to control pupil participation;
>
> 5. The ability to make adjustments in the lesson, based on student feedback that suggests such adjustments;
>
> 6. The ability to use reward and punishment to reinforce specific points in the lesson.[29]

Additional research in this area of skill identification is necessary if the most vital skills are to be selected and defined in order to avoid wasting time and energy working on skills which are of little use to the teacher.

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[29] I-D-E-A, Micro-teaching, Dayton, Ohio, Charles F. Kettering Foundation, (no date), p. 5.

Closely related to microteaching are the model teaching tapes now being utilized as part of preservice training.

> When a student micro-teaches a unit in an unusually effective and creative manner, his performance should be extracted from the videotape and preserved for replay to methods classes in succeeding terms. Following this procedure for several quarters or semesters results in the development of a library of model performances, and the instructor may use the tapes to illustrate an effective method of teaching oral interpretation, or any of the other units included in the methods course.[30]

Comprehensive packages of films and manuals on the technical skills of teaching for use by teacher education institutions, school systems, and similar bodies are already being marketed.[31] Among the creators of this program are Allen, Bush, and Cooper, originators of microteaching. Their collaboration is an outgrowth of their experiences as leaders of the Microteaching Clinic at Stanford.

Among the more cogent advantages of microteaching in preservice application are:

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[30] James W. Gibson, "Using Videotape in the Training of Teachers", in The Speech Teacher, Vol. 17, No. 2, issue of March 1968, p. 108.

[31] General Learning Corporation, Teaching Skills for Elementary and Secondary School Teachers, New York, The Corporation, 1968, p. 2.

1. The technique involves real pupils, real teaching, and real learning. The student is exposed to a genuine classroom situation, but in a limited, controlled way. There is an opportunity to go through the initial anxiety experienced when standing before a class.

2. Student gets practice in specific, defined teaching skills. These skills are developed under close supervision and feedback from students and supervisors is immediate. One, or, at the most, two general skills are taught and analyzed at any one time.

3. Student may individualize his training with microteaching in ways which he could never do otherwise. The process makes possible variations in the amount of practice needed in a wide range of skills, in a variable range of subject matter and with a variety of pupils.

4. The process gives an intern a continuing profile of his progress toward excellence. Several people are able to evaluate and re-evaluate a teaching performance. Good records of teaching performance under controlled conditions can be kept. Opportunity for self-evaluation is present.

5. Training staff can conduct microteaching sessions at the time and place which is most convenient.

6. Microteaching provides a valuable research technique for exploring training effects under controlled conditions.

7. Since the student is working with a short lesson and fewer pupils, he may try out new methods and ideas in a less difficult situation than that found in a regular classroom.

8. Student has an opportunity to make mistakes--he does not have to worry about the effect on pupils.

9. Supervisors have an opportunity to work closely with students before the latter are teaching in the schools.

10. The technique provides a way to determine whether or not one feels he can work successfully with pupils before going through the teacher-training program.

11. Observing others teach and discussing their performance broadens the experience of the observer and therefore lessens the number of actual presentations required by each student to alter his own teaching behavior.

On the debit side, certain conditions may materialize.

1. A situation may develop in which there is inadequate interaction between the specialized teaching skills and the general skills. Perhaps the focus is too much on the specialized skills.

2. Since the microteaching groups are small, a student may not be prepared to handle the more realistic class of thirty or more pupils.

3. Material taught may not always be appropriate for the caliber of students with whom he is working. Microteaching pupils are "captive" in the sense that they have either volunteered or been paid to participate.

4. Ordinary discipline problems are seldom encountered. Some attempts at simulation of such problems have not been too successful.

5. False sense of security may result from microteaching exposure. There is quite a difference between a live fifty-minute lesson with thirty pupils and a five- or ten-minute encounter with five pupils.

6. Cost of employing additional technical personnel, employing microclass pupils, purchasing necessary hardware may be too high for some institutions.

7. Student may do well in specific teaching skills emphasized in microteaching but do poorly in his student teaching.

Judging from the literature and the sketchy findings currently available, it can be stated that breaking down the complex teaching act into simpler, more easily trainable skills holds much promise for teacher education. The

Stanford[32] study has disclosed some pertinent results among which were the revelations that microteaching performance accurately predicted classroom teaching performance and that interns trained with microteaching, who spent less than ten hours a week in this training, performed better than a similar group of interns who received separate instruction.

Cyphert and Openshaw[33], critical of the research in teacher education, stated that an analysis of teacher education research must be undertaken from a theoretical, methodological, or heuristic point of view. Their contention was that many of the criticisms directed toward preservice teacher education have been personal, "(...) without explicit empirical reference to a clear definition of criterion behavior".[34]

> Much of the educational research which might have implications for restructuring teacher-education research is not integrated with the literature of teacher education. Studies concerning teaching methodology, the systematic observation of classroom behavior, instruments and media of instruction, the open and closed mind, paradigms for research on teaching, and the dynamics of group interaction are not considered to be teacher-education literature.[35]

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[32] I-D-E-A, op. cit., p. 3.

[33] Frederick R. Cyphert and M. Karl Openshaw, "Research in Teacher Education: Practices and Promises", in Theory into Practice, Vol. 3, No. 1, issue of February 1964, p. 26.

[34] Ibid., p. 26-27.

[35] Ibid., p. 27.

The addition of this microteaching experience dimension to student-teaching preparation, as an adjunct to methods courses, and its particular attention to teacher behavior and its analysis, could be an answer to the glaring inadequacies revealed by Cyphert and Openshaw. The emergence of microteaching should certainly help in the revitalization.

BIBLIOGRAPHY

Allen, Dwight W., and Richard Clark, Jr., "Microteaching: Its Rationale", in The High School Journal, Vol. 51, No. 2, issue of November 1967, p. 75-79.

This brief article by one of the original implementors of microteaching clarifies what the technique is and provides a partial analysis of the theoretical and practical reasons behind both its original and subsequent applications.

Belt, W. Dwayne, "Micro Teaching: Observed and Critiqued by a Group of Trainees", paper presented at the American Educational Research Association Annual Convention, New York, February 1967, p. 1-9.

An in-depth description of the microteaching program at Brigham Young University which is used to alleviate the difficulty of locating enough student teaching stations for its many students. The graphic illustration of the program along with examples of two evaluative instruments made this a worthwhile article.

Bush, Robert N., and Dwight W. Allen, Micro-Teaching: A Description, Stanford, California, Stanford University School of Education, 1968, (no pagination).

A collection of references to four years (1964-1968) of plans and experiences with microteaching at Stanford. The evolution of the concept over this period is traced. Abundant with practical ideas for both researchers and teacher educators.

Clark, Ella Callista, "Innovations in Teaching the Teacher", in Catholic School Journal, Vol. 68, No. 6, issue of June 1968, p. 28-29.

The minilessons and minicourses for teachers being developed by the Far West Laboratory for Educational Research and Development, Berkeley, California, are reviewed in this informative article. These concise, filmed model lessons are used in preservice and inservice teacher training.

Conant, James B., The Education of American Teachers, New York, McGraw-Hill Book Company, Inc., 1963, ix-275 p.

The product of a two-year study of certification policies in sixteen state capitals and of teacher-training programs in seventy-seven institutions, this book reviews teacher education policies and offers recommendations that appeared radical at time of publication. Diversity of American education is taken into account and suggestions are offered for raising standards without sacrificing diversification.

Cook, Fred S., and Daniel P. Brown, "Does Micro-Teaching Have a Place in Business Education?", in Business Education World, Vol. 48, No. 8, issue of April 1968, p. 7-9, 28-30.

A good description of microteaching and an explanation of both the advantages and disadvantages of this technique which is seen as part of the trend toward the systems approach to the preparation of teachers that will be emphasized in the 1970's. Another example of the versatility of microteaching. First article in a series of two.

Cooper, James M., "Developing Specific Teaching Skills Through Micro-Teaching", in The High School Journal, Vol. 51, No. 2, issue of November 1967, p. 80-85.

In this article, the author suggests that the analysis of teaching be approached in terms of pupil and teacher behaviors and concludes that breaking down the complex teaching act (as exemplified by microteaching) into simpler, more easily trainable skills offers much promise for teacher education. Article helped clarify the microteaching process.

Cyphert, Frederick R., and M. Karl Openshaw, "Research in Teacher Education: Practices and Promises", in Theory into Practice, Vol. 3, No. 1, issue of February 1964, p. 26-29.

Along with the provision of a few significant "do's" and "don't's" for individuals contemplating research, this article also listed the names of educators who have studied teacher behavior along with their respective contributions. The state of teacher-education research through 1963 is reported in concise language that leaves the reader with a very optimistic outlook.

Flanders, Ned A., "Intent, Action and Feedback: A Preparation for Teaching", in The Journal of Teacher Education, Vol. 14, No. 3, issue of September 1963, p. 251-260.

Flanders cites his eight-year research program which involved the development of interaction analysis (an observation technique) as a tool for quantifying patterns of teacher influence. This data-collecting device could lead to conceptualization and quantification of the teaching act.

BIBLIOGRAPHY

General Learning Corporation, Teaching Skills for Elementary and Secondary School Teachers, New York, The Corporation, 1968, 6 p.
Brochure explains new multi-media program for improving technical skills of teachers in both preservice and inservice situations. Involves series of short films of model teachers demonstrating technical skills.

Gibson, James W., "Using Videotape in the Training of Teachers", in The Speech Teacher, Vol. 17, No. 2, issue of March 1968, p. 107-109.
Stresses the feasibility of using television and videotape recorders as a primary instructional aid in the preparation of elementary and secondary school teachers. Selected methods for use of videotape recording in teacher education are identified and evaluated.

Howard, Elizabeth Z., "Needed: A Conceptual Scheme for Teacher Education", in The School Review, Vol. 71, No. 1, issue of Spring 1963, p. 12-26.
Valuable article in that it provides a conceptual scheme for teacher education which takes into account the relevant theories regarding the nature of learners and content. On the basis of these theories, many questions pertinent to teacher education are suggested.

I-D-E-A, Micro-teaching, Dayton, Ohio, Charles F. Kettering Foundation, (no date), 8 p.
This brief pamphlet defines microteaching (as prescribed by Stanford University), lists some of the results, gives the advantages--omits disadvantages, and relates how the technique may be used with both beginning and experienced teachers. Publication also touches upon the evaluative aspects of the process.

Johnson, William D., "Microteaching: A Medium in Which to Study Teaching", in The High School Journal, Vol. 51, No. 2, issue of November 1967, p. 86-92.
Offers microteaching as necessary third ingredient in a general program of school improvement aimed at new stress on the quality and nature of instruction. Suggests that teacher and learner bheaviors be operationally defined and that the desired interactions between teacher and learner be derived from a theoretical rationale. Helpful article.

--------, "Teaching Techniques Laboratory", in An Evaluative Report of the Laboratory Portion of the Augmented Professional Semester, Fall 1967, University of Illinois, May 1968, 30 p.

Thorough description of the innovative features of this University of Illinois teacher education program which features team teaching of professional courses and laboratory practice utilizing microteaching. Evaluative procedures used in obtaining the research findings are noteworthy.

Kallenbach, Warren, "Microteaching as a Teaching Methodology", from Proceedings, Conference on Instructional Methods and Teacher Behavior, Berkeley, California, November 21-22, 1966, p. 14-19.

One's knowledge of the videotape recorder and its applicability to teacher training is considerably enhanced as a result of this article along with exposure to three operative microteaching projects.

Medley, Donald M., "Experiences with the OScAR Technique", in The Journal of Teacher Education, Vol. 14, No. 3, issue of September 1963, p. 267-273.

Two studies of teacher behavior, both utilizing Observation Schedule and Record (OScAR) are described in this article which concludes that meaningful measures of classroom behavior can be developed from objective records made by relatively untrained observers.

Meier, John H., "Rationale for and Application of Microtraining to Improve Teaching", in The Journal of Teacher Education, Vol. 19, No. 2, issue of Summer 1968, p. 145-157.

Comprehensive description of a rationale for and application of microtraining to improve teaching. Learning theory commonalities to the microteaching process of subjecting samples of human behavior to videotape recording, reviewing, responding, refining, and redoing are listed along with examples of the practical application of the microtraining process. Very helpful.

--------, and Gerald A. Brudenell, "Interim Progress Report of a Remote Teacher Training Institute for Early Childhood Educators", paper presented at the American Educational Research Association Annual Convention, Chicago, Illinois, February 1968, p. 1-16.

Thorough explanation of the autotelic responsive environment program provided nursery school teachers at a summer institute at Greeley, Colorado, is found in this article along with the advantages offered by microteaching. The advent of the videotape recorder is considered a major technological breakthrough. Comprehensiveness of article makes it valuable for one interested in implementing microteaching.

Skinner, B. F., The Technology of Teaching, New York, Appleton-Century-Crofts, 1968, ix-271 p.
Various techniques of instruction are reviewed in this collection of essays bearing on the importance of student behavior as it relates to basic analysis and the prescribed technology. Better understanding of learners is stressed along with (1) those who teach, (2) those who engage in educational research and development, (3) those who administer schools and colleges, (4) those who make policy, and (5) those who support education.

Wright, Herbert F., Recording and Analyzing Child Behavior, New York, Harper and Row, 1967, viii-291 p.
This book, an abridgment of Chapters V-VIII and X-XII of Midwest and Its Children, sets apart and reintroduces a method for description of the naturally occurring situations and behavior of individuals. Conceptual grounds of the method are represented along with data from its application to children of a town in the central part of the United States. The specimen record is explained in depth. Good source.

Patrick Babin.

AN OVERVIEW

The young science teacher walked briskly into the classroom carrying a dark, wriggling garden snake. For the next five minutes, she proceeded to teach her six pupils about characteristics common to snakes. From the moment she entered the room, the pupils gave her their undivided attention.

These events took place during an in-service training program for supervisors at the Campbell Union High School District in California. They illustrate microteaching in action.

After this microteaching lesson, the pupils and a group of supervisors evaluated the young teacher's performance on the Stanford Teacher Competence Appraisal Guide. Except for her pacing of the lesson, the marks were quite high. In an immediate critique of her teaching, the supervisors pointed out that she had talked too fast and had tried to cover too much ground. They suggested that her teaching would be more effective if she limited the amount of information presented and gave a better summary at the end of the lesson.

The teacher then revised and re-taught the same subject in another short session. Again, the pupils and supervisors rated her performance. All agreed there was definite improvement. Her second lecture was better organized while giving better coverage to the lesson's major points.

Purpose of this particular program was to change teacher perceptions of their own teaching, and give training in specific teaching skills.

As shown above, the program demonstrated that microteaching can be of real value to experienced teachers, as well as to trainees and interns, for whom it was originally designed.

Microteaching came into being five years ago at Stanford University in response to an urgent need for better teacher training. As it now exists, microteaching serves three purposes. First it gives trainees practical, first-hand teaching experience. Second, it functions as an inservice training tool for experienced teachers. Third, it provides a valuable research technique for exploring training effects under controlled conditions.

Microteaching, which is now an integral part of Stanford's summer program for teacher interns, evolved as part of an experimental teacher education program which the Stanford School of Education conducted with C. F. Kettering Foundation and Ford Foundation assistance.

Before the appearance of the microteaching idea, a Stanford trainee took part in two exercises designed to prepare him for the classroom. Both exercises fell far short of this goal. In the first exercise, which was known as the "demonstration teaching lesson", each intern taught an invented game to a group of role-playing students. When an intern discovered with a shock that teaching is more than just knowing the subject, his self-confidence was often seriously undermined.

In addition to the "demonstration lesson", interns also spent time as observer-aides in local high schools. This experience, too, was of dubious value. Trainee participation in actual teaching was infrequent and superficial. Further, much depended on the competence of teachers the trainee observed and assisted. Achievement of training objectives as an aide, or in the "demonstration lesson", was a matter of chance. Clearly, a more effective introduction to actual classroom teaching is needed.

The first microteaching clinic at Stanford was held during the summer of 1963. It was clear from the very beginning that microteaching represented a major breakthrough in teacher training. At last, a technique had been developed which was capable of monitoring a teacher's performance. An intern's first teaching experience could be planned, controlled and evaluated under laboratory conditions. The supervising staff could isolate and define techniques and skills which produce good teaching. Interns then could focus on these specific skills in different assignments. During the past five years, the staff has continued to develop and improve the basic microteaching model, as well as the summer program itself. Interns have enthusiastically supported this research, and show marked improvement in teaching skills after taking part in the clinic.

The encouraging results obtained from microteaching are based upon a statistical analysis of pupil and supervisor ratings of interns over an eight week period.

As evidence of the success and impact of microteaching, consider the following items. The ratings were made on the microteaching appraisal guide, and there was a follow-up of teaching candidate performance in the classroom. Analysis showed that:

1. Interns trained with microteaching, who spent less than 10 hours a week in this training, performed better than a similar group of interns who received separate instruction, along with teacher-aide experience (which involved 20-25 hours per week);

2. Microteaching performance accurately predicted subsequent classroom teaching performance.

3. Over the eight-week period, there was a marked increase in the intern's ability to discern strengths and weaknesses in his teaching;

4. Interns who had access to student feedback (student appraisals of their teaching) made greater improvement in their teaching than interns who did not

have access to student feedback;

5. Ratings of videotaped teaching performances correlated highly with live ratings of the same;

6. Interns indicated a high acceptance of the value of microteaching;

7. Student ratings of teaching performance were more stable than any others, including the ratings of supervisors;

8. Focusing on six specified teaching skills produced significant changes in the interns' teaching performances.

The Microteaching Process

The typical microteaching class is small. Usually no more than five pupils comprise a single group. In the Stanford summer microteaching clinic, pupils for the classes are recruited from local high schools and paid for their work. A major advantage of this arrangement is that the staff can select students according to specified requirements, such as age, sex intellectual and achievement levels, as well as social, economic and racial background.

Each of the pupils is trained for several hours in the use of the Stanford Teacher Competence Appraisal Guide. This Guide consists of thirteen items of seven-interval forced-choice scales, biased toward superior ratings to eliminate J-curve effects. Using the Guide, pupils rate interns on items such as selection of materials, clarity of presentation and organization of the lesson.

A microteaching class may last from a minimum of five to a maximum of twenty-five minutes. In any given class, the length of the lesson and the number of pupils in the class are factors which can be varied to meet different needs. A trained observer (an experienced teacher, usually a candidate for a higher degree) views the class, and uses the Guide to make his own rating of the trainee's performance.

At the Stanford Summer Microteaching Clinic, the staff videotapes the interns as they teach and plays these tapes back immediately. Interns are then able to observe and criticize their own teaching. Videotaping offers many advantages, but it is not absolutely essential in the microteaching process.

In the microteaching cycle of teach/re-teach, a trainee teaches a brief lesson, limiting instruction to a single concept and focusing on a single teaching skill. Immediately afterwards, his pupils and supervisor evaluate the teaching on the Guide, and a critique of the lesson takes place. The trainee's supervisor makes suggestions for specific improvement, such as occurred in the example of the young science teacher mentioned earlier. Then the trainee teaches the same lesson again to another group of pupils incorporating the suggestions for improvement. This second session is evaluated in the same way.

Much inquiry and research has gone into the precise definition of skills which trainees can focus on in their microteaching sessions. Among the teaching skills which are considered fundamental to good teaching are the following:

1. The ability to establish rapport with the pupils,

and create a sense of involvement with the lesson (as the imaginative science teacher did);

2. The ability to establish appropriate frames of reference, which will help pupils grasp the topic, and which will expose them to different points of view;
3. The ability to question pupils in a way that enriches their understanding of the lesson;
4. The ability to control pupil participation;
5. The ability to make adjustments in the lesson, based on student feedback that suggests such adjustments;
6. The ability to use reward and punishment to reinforce specific points in the lesson.

A skill which is still in the process of identification and verification is the ability to successfully imitate outstanding teacher models. Microteaching sessions are doing much toward more precise definition and practical application of these skills which have, until recently, been stated only in very general terms.

The summer microteaching clinic at Stanford, which aims at preparing interns for public school assignments in the fall, is conducted in three phases. On his first day in the clinic, the trainee teaches a small, brief class to demonstrate his teaching skills. A videotape is usually made at this session. Pupils and supervisor evaluate the trainee's performance on the Guide. This can be called the diagnostic phase of the clinic.

Then, during a training phase, staff members give the intern formal training to improve his teaching. Here, for example, is an excerpt from a staff member's lecture on training behaviors:

> Hand, head and body movements are an important part of communication...One can think of the effective communications of Marcel Marceau and Harpo Marx as one end of a continuum and the relatively dry and lifeless communications of Ed Sullivan as the other end of the continuum. Maximum communicative effectiveness probably lies somewhere in between.

During this training phase, the intern conducts short microclasses focusing on a specific teaching skill in each of these.

Finally, during the concluding evaluation phase, the trainee demonstrates his progress in teaching competence in a comprehensive series of longer lessons. In this third phase, he stays with the same group of pupils. This more nearly approximates the normal classroom situation and allows for better coverage of the subject.

Microteaching does not provide answers to all the problems of teacher education, but it does equip the beginning teacher with more confidence and ability than many, more traditional methods of teacher training. It is not only more effective than those methods but more economical.

The major advantages of microteaching may be summed up as follows:

FIRST, microteaching involves real learning. Thus, the preliminary practice which it offers is not just a laboratory experience. The intern is exposed to a genuine classroom situation, but in a limited, controlled way.

SECOND, microteaching gives the intern practice in specific, defined teaching skills. He develops these skills under close supervision and gets immediate feedback from students and supervisors on his progress.

THIRD, microteaching gives the intern as much practice as he needs in a wide range of skills, in a variable range of subject matter and with a variety of pupils. These pupils can be selected for a given microclass to suit the specific purposes of that class.

FOURTH, an intern can individualize his training with microteaching in ways which he could never do otherwise;

FIFTH, microteaching gives the intern a continuing profile of his progress toward excellence;

SIXTH, the training staff can conduct microteaching sessions at the time and place which is most convenient. This reduces requirements for facilities and allows more teaching practice in a given amount of time.

A further economy is that microteaching classes need fewer pupils than other kinds of training classes. From this list of advantages, it appears that microteaching may make a major contribution to twentieth-century teacher education.

As the example of the young science teacher at the beginning of this paper indicates, microteaching does not need to be limited to interns and trainees, but can be an extremely valuable tool for the training of experienced teachers as well. The possibilities for a school microteaching clinic would be limited only by the imagination of the teaching staff.

For example, specific curriculum problems can be tackled in such a clinic without heavy investments in teacher or student time. At present, a teacher usually has to wait until the next year to test alternative approaches. Further, the basic teach/re-teach microteaching cycle is most effective in testing new instruction methods, new course content and new interdisciplinary approaches within the curriculum. The process of microteaching a newly developed lesson before it is delivered can quickly determine whether or not the lesson should be taught at all.

Microteaching in the Field

In the supervision and evaluation of tenured, as well as student, teachers, microteaching is effective. The usual practice is to evaluate teachers on the basis of an observation made by the staff during a class period at random. This is usually followed months later by another observation that involves another class, perhaps even a different grade level and different subject matter. The observer checks at this time to see if there is any improvement in the long list of points drawn up after the first observation. The result of this haphazard procedure is that no one ever really finds out if supervision has accomplished anything. Worse still, the teacher has no basis of concrete suggestion for changing what may be an inaccurate perception of her teaching. As a result, stimulus for professional improvement is lacking once the teacher has reached tenure.

In cases such as this, microteaching provides more consistent and more effective supervision. It also provides more effective supervisory training and serves as an instrument which can be used to experiment with new supervisory techniques. Experience in this field at Stanford shows that an evaluation session that covers too many points and a critique that includes too many suggestions for improvement defeats the purpose of evaluation altogether. A well planned, well focused teaching encounter under controlled conditions, followed by a constructive review and evaluation by pupils and supervisors, however, can bring about profound changes in a teacher's self-perception, and hence, in her teaching.

Fringe Benefits of Microteaching

Another area in which microteaching can be quite useful is that of determining the grade levels for which given materials are most appropriate. In Jefferson County, Colorado, for example, a teaching staff developed a lesson for fifth and sixth grade science students. In a microteaching trial of this lesson, however, the staff discovered that second-grade students caught on to this lesson faster than the older students dis.

Microteaching is also a value in helping a school select experienced teachers. It enables an evaluation committee to rate an applicant under live conditions, instead of relying solely on recommendations or a grade point average.

With microteaching as a source of evaluative evidence, a staff can develop new criteria for employment performance.

A school or university in-service microteaching clinic does not need to be complex or expensive. As noted above, the microteaching model easily adapts to different grade, ability, and interest levels. Such adaptability, of course, is especially important at the junior and senior high school level.

Microteaching offers a number of possibilities to the creative, imaginative educator. It may well become an important factor in contemporary re-thinking of both pre-service and in-service education.

1-D-E-A
Charles Kettering Foundation

BEHAVIORAL OBJECTIVES

BEHAVIORAL OBJECTIVES:
BENJAMIN BLOOM'S COGNITIVE DOMAIN

This program, focusing on Benjamin Bloom's Taxonomy of Educational Objectives - The Classification of Educational Goals - Handbook I: Cognitive Domain, is meant to assist you in defining educational objectives.

Once you have completed this self-instructional unit, you should be able to do the following;

1. Define and identify an instructional objective as set forth by Benjamin Bloom, Robert F. Mager, and Ralph Tyler.

2. When presented with a list of fifteen behavioral objectives selected from Bloom's Taxonomy be able to identify the category for each according to Bloom's six cognitive domain classifications with a score of ten or better correct.

3. Analyze your curriculum plans in terms of balance between high and low order of cognitive activity.

The significance of clearly defined goals worded in terms of pupil behavior is not new. Back in 1934, Ralph Tyler stated:

> Each objective must be defined in terms which clarify the kind of behavior which the course should help to develop among the students; that is to say, a statement is needed which explains the meaning of the objective by describing the reactions we can expect of persons who have reached the objective. This helps to make clear how one can tell when the objective is being attained since those who are reaching the objective will be characterized by the behavior specified in this analysis. (1)

What is an objective?

Robert F. Mager offered the following definition:

> An objective is an intent communicated by a statement describing a proposed change in a learner--a statement of what the learner is to be like when he has successfully completed a learning experience. (2)

In describing the behavior and the subject matter, regardless of content area involved, we construct an educational ________________________.

You are paying attention if you wrote "objective" in the space.

If you did not know what to write, please reread this page.

Page 45, please.

A statement of objective, to be truly meaningful, should tell exactly what a pupil is to be able to do after he has had a given learning experience. Specificity is very important. If these educational objectives are to be more than words on paper, they should be so worded that the end result will be measurable. They should clearly define the means to this end.

Let us check on your understanding of an objective. Look at this passage and answer the question which follows it. _Turn to the page number shown beside your choice to check your answer_.

> A study of selected current problems. Class sessions are organized around lectures, discussions, and student reports; a substantial research paper is required.

Is the preceding a course objective? Or does it look like a course description?

1. If you think it is a course objective, turn to page 47.

2. If you think it is a course description, turn to page 48.

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* _IGNORE NOW_

You had to return to this page.
Please review it and go on to page 52.

Were you asked to turn to this page? Please follow directions. Pay attention to the page numbers next to the suggested answers.

Go back to the previous
page and reread the directions.

If you decided it was a course objective, you are wrong.

A course description, as shown on page 45, defines the content and procedures of a course. It does not describe the desired outcome of a course, does it? It does not explain what will be accepted as adequate achievement.

Try again.

Which one of these looks like an objective?

1. The ability to relate principles of civil liberties and civil rights to current events.

Turn to page 49.

2. The problem of constructing educational tests so as to evaluate the child's attainment of educational objectives. These problems include stating educational goals in terms of the child's behavior, procedures for observing behavior, evaluating the observed behavior, and interpreting the evaluation.

Turn to page 50.

A course description---right you are!

It is more general than an objective and tells you something about the content and procedures of a course. It is not a description of what a pupil is to be able to do after he has had a given learning experience.

Move on to page 51.

If you chose 1, congratulations! Let's continue.

Please turn to page 51.

2. You're not serious! What you chose as an objective is a course description.

Let's review. You can still get this.

A course objective describes what a pupil is to be able to do after he has had a given learning experience.

Example:

> The student is to be able to complete a 100-item multiple-choice examination on the subject of the New Deal. The lower limit of acceptable performance will be 85 items answered correctly within an examination period of 90 minutes.

A course description is more general. Its main function is to tell you something about the content and procedures of a course.

Example:

> Analysis of problems and practices in school supervision, with special reference to the supervision of student teaching and to in-service training. Includes a critical review of the literature on supervision in education and in related fields.

Please go back to page 45
and reread that page.

2

Now, let's move on to Benjamin S. Bloom's Taxonomy of Educational Objectives.

His taxonomy (classification scheme) "(...) is based on the assumption that the educational program can be conceived as an attempt to change the behavior of students with respect to some subject matter". (3)

Bloom's taxonomy is divided into three domains of human learning:

1. Cognitive.
2. Affective.
3. Psychomotor.

Let's briefly define these three areas before we zero in on the cognitive domain, the focal point of this instructional unit.

1. Cognitive domain: includes objectives dealing with thinking, knowing, recall, problem-solving--the development of intellectual abilities and skills.

2. Affective domain: includes objectives which deal with values, attitudes, interests, development of appreciations.

3. Psychomotor domain: deals with objectives having to do with manipulative and motor skills.

Please go on to next page.

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* IGNORE THIS PARAGRAPH NOW.

You had to return to this page. Please review the three domains of human learning. Then move ahead.

Let's practice classifying the following according to domain. Use letters to represent the words:

c = cognitive
a = affective
p = psychomotor

1. Appreciation of cultural patterns exhibited by individuals from other groups--social, religious, political, etc.

_____ Turn to page 54.

2. Recall of major facts about particular cultures.

_____ Turn to page 53.

3. Arranging numerical blocks in a left to right sequence.

_____ Turn to page 55.

c = cognitive

Very good! Now you are ready to move into the subdivision of the cognitive domain where you will be exposed to a classification scheme that is hierarchical in nature--that is, each category is assumed to involve behavior which is more complex and abstract than the previous category.

Please turn to page 56
after you have completed
page 52.

Note: If you did not choose cognitive, go back to page 51. You've got some brushing up to do. Do not forget paragraph at bottom of page 51.

a = affective

These objectives would emphasize a feeling tone, an emotion, or a degree of acceptance or rejection.

Since this program is limited to the cognitive domain, we will now leave the affective area. If, and when, you want to study it, please refer to:

Taxonomy of Educational Objectives - The Classification of Educational Goals - Handbook II: Affective Domain by David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, New York, David McKay Company, Inc., 1956.

Page 56, please, if you
have completed page 52.

Note: If your choice was wrong, please review the affective domain on page 51. Read the paragraph you were asked to ignore on that same page.

p = psychomotor! Good!

Psychomotor objectives have yet to be developed. As was previously stated, these refer to muscular or motor skills. manipulation of material and objects, or perhaps an act requiring neuromuscular coordination. Such objectives would relate more readily to areas like handwriting, speech, physical education, trade, and technical courses.

Our foremost interest in this particular program is the cognitive domain.

Please turn to page 56
if you have completed
page 52.

Note: If psychomotor was not your choice, please manipulate the pages in reverse to page 51. This time, do not ignore the paragraph at the bottom of that page.

Let us pause for a moment.

How do you react to educational objectives at this stage of the program?

Do you feel this material is impractical?

irrelevant?

If your answer is affirmative to either, or both, of the last two questions, please turn to page 57.

If you feel this information
is practical and relevant,
please turn to page 62.

Why is it considered important all of a sudden to define objectives clearly? Many teachers have been successful without them--why the sudden focus on behavioral goals?

For a brief look at the teacher's domain, please refer to page 58.

For a brief exposure to the pupils' remarks, please refer to page 60.

Teacher Domain:

In too many instances, objectives are identified and defined only casually, if at all.

Is mastery of course content going to be the objective? Exactly what are the students to do with this content? Are they going to memorize what the teacher considers important?

Should the student depend on teacher behavior (performance) in determining what is expected of him? Should these objectives be implied with the end result dependent on student intuition?

True, most teachers have a sense of what is important for students to learn. Many are able to translate this notion of educational goals into relevant learning experiences for students without ever having put down on paper what these implied aims are.

However, what about settings where pupils grope in the dark because of lack of direction? What about the situations where pupils resort to mechanical completion of exercises? What of the classrooms where pupils never know what to expect? Do the students know what the teacher is trying to teach and what is expected of them?

Herein lies the value of behavioral objectives. These objectives allow a teacher to carry his thinking beyond the point of selecting content to be presented. It gives direction to teaching--it places the instructional process on a higher plane. Pupil behavior should not be a reflection of teacher behavior.

Please turn to the next page.

In today's schools, we expect much more from many of the youngsters, particularly the more able ones. Consonant with this acceleration of vigorous activity is a need for specifying the exact goals that pupils are to be expected to achieve. The work that the pupils (particularly the gifted) do should contribute to important specified objectives. We have got to guard against "busy" work.

More important than anything else are clearer communications and evaluation. With clearly specified objectives, both the teacher and the child will know what is expected as a result of a certain learning experience. These statements of specific objectives will include the exact behavior that the pupil is to be expected to exhibit.

If you want to know
how the students react,
turn to page 60.

The cognitive domain
awaits you on page 62.

Student Remarks:

"We never know what to expect from him."

"Take notes on lectures, memorize them, and you've got it licked."

"You can't tell what he wants until you've taken a few of his tests."

"He gives reading assignments but never evaluates you on them."

"She's a stickler for neatness. Be sure your workbook exercises are always completed and clean."

"I don't know what to study. John, who was in that class last year, should know; let's see him."

"She's always making these general assignments. Why couldn't she be more specific?"

"We're always doing the same thing in this class."

"How can we possibly cover all of that in one year? Here it is in January and we're still on Unit 1."

"Exactly what does she want?!!?

If a teacher considers carefully what the student is to do with content, he will give him clearly defined objectives.

Please continue on the
next page.

Ralph Tyler stated that a clear definition of an educational objective should describe behavior,

that is,

"What it is that the student should be able to do, or how he should be able to think or feel." (4)

Curious about the teacher's domain?

Page 58 awaits you.

The cognitive domain is further dissected on page 62.

The Cognitive Domain

The six categories of the cognitive domain are listed below. Each will be followed on the next few pages by a brief description and illustrative objectives.

These six classes are:

1. Knowledge.
2. Comprehension.
3. Application.
4. Analysis.
5. Synthesis.
6. Evaluation.

The classification scheme is hierarchical in nature; that is, each category is assumed to involve behavior which is more complex and abstract than the previous category.

The categories are arranged from simple to more complex behavior,

from concrete to more abstract behavior.

Now, let us look at KNOWLEDGE,

the simplest of the categories, on page 63.

KNOWLEDGE

Knowledge involves the following types of behaviors: the recall of specifics and universals, the recall of methods and processes, or the recall of a pattern, structure, or setting.

This recall situation involves little more than bringing to mind the appropriate material.

Below are listed four samples of behaviors associated with the classification: Knowledge. In this listing of five, one does not belong. Try to locate it and turn to the next page for verification.

____ a. When presented with a description of physical and chemical properties of common elements, the student will correctly name them.

____ b. When presented with mathematical verbal material, student will correctly translate it into symbolic statements and vice versa.

____ c. Student will be able to state the four criteria for judging art.

____ d. Given a list of known major culture classes of the earth, the student will correctly check the primitive ones.

____ e. Given a list of known words, the student will correctly give their meanings.

Page 64, please.

You should have chosen b. When presented with mathematical verbal material, student will correctly translate it into symbolic statements and vice versa.

This type of behavior belongs in the COMPREHENSION class. In the above situation the communication is transcribed from one form of communication to another.

If you chose any of the other samples of behavior associated with knowledge, please review page 63.

If you correctly chose b, please move on to the next highest class,

Comprehension,

on the following page.

COMPREHENSION

The lowest level of understanding, comprehension, refers to a type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications.

This is perhaps the largest general class of intellectual abilities and skills emphasized in schools. When students are confronted with a communication, they are expected to know what is being communicated and to be able to make some use of the material or ideas contained in it.

Bloom considered three types of comprehension behavior:

a. translation: when an individual can put a communication into another language, another term, or into another form of communication.

b. interpretation: when an individual deals with a communication as a configuration of ideas whose comprehension may require a reordering of the ideas into a new configuration.

c. extrapolation: when an individual makes estimates or predictions based on understanding of the trends, tendencies, or conditions described in the communication. (5)

In comprehension, the emphasis is on the grasp of the meaning and intent of the material.

Please continue on page 66.

All but one of the following samples of behavior belong in the comprehension category. Please isolate it and turn to the next page to check your answer.

____ a. When presented with a simple metaphoric statement, the student will correctly make a matching statement in ordinary English.

____ b. When presented with a lengthy technical report, the student will be able to translate it into a briefer, more meaningful document.

____ c. Presented with a new social situation, the student will be able to apply principles of psychology in identifying the characteristics of this new situation.

____ d. Given a series of conclusions from a described experiment, the student will correctly identify those which are unwarranted.

____ e. Given a series of atomic numbers with gaps, the student will correctly fill in the spaces.

Page 67, please.

c. is the one which does not belong. It reads:

Presented with a new social situation, the student will be able to apply principles of psychology in identifying the characteristics of this new situation.

The above sample belongs in the application class.

Given a new problem, the student will apply the appropriate abstraction without having to be prompted as to which abstraction is correct or without having to be shown how to use it in that situation.

If your choice was wrong,
please review pages 65 and 66.

If you were correct, go on to the

APPLICATION

class on page 68.

APPLICATION

This third catetory of the cognitive domain can easily be mistaken for comprehension. How often do we hear, "If he comprehends it, he can apply it." Application, however, goes a step beyond the comprehension category.

A problem in the comprehension category requires the student to know an abstraction well enough that he can correctly demonstrate its use when specifically asked to do so. The student *can* use the abstraction *when* its use is specified.

Given a new problem, the student will apply the appropriate abstraction without having to be told as to which abstraction is correct, or without having to be shown how to use it = *APPLICATION*. The student *will* use the abstraction correctly given an appropriate situation in which no mode of solution is specified.

Here we see it in diagrammatic form:

New Problem	Student Restructures into Familiar Elements	Classifies Problem as Familiar Type	Selects Methods for Solution	Uses Method	Solves Problem
1.	2.	3.	4.	5.	6.

Steps 2, 3, and 4 are
part of *Application*.

In application, the emphasis is on remembering and bringing to bear upon given material the appropriate generalizations or principles.

Please go on.

Of these five examples of objectives listed below, isolate the one that does not belong in the application category:

____ a. When confronted with a problem which requires trigonometric functions for its solution, the student will identify the type of problem (i.e., trigonometric), select the correct function and solve the problem.

____ b. When presented with a list of predictions of the consequences of a scientific law, the student will select the correct one.

____ c. The student will be able to relate principles of civil liberties or civil rights when discussing the racial disturbances of the summer of 1967.

____ d. When presented with Catcher in the Rye, the pupil will be able to infer the author's purpose, point of view, or traits of thought and feeling as exhibited in his work.

____ e. Given a series of scientific principles in biology, the student will correctly describe an application of the principle.

To check on your
choice, look at
page 70.

d does not belong.

When presented with Catcher in the Rye, the pupil will be able to infer the author's purpose, point of view, or traits of thought and feeling as exhibited in his work.

The above is an example of an objective in the ANALYSIS classification and does not belong under application.

If perchance your selection was erroneous, please review pages 68 and 69.

If your choice was correct, please continue.

Turn to page 71.

ANALYSIS

Our fourth category is analysis. Here we have the breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between the ideas expressed are made explicit. This is a somewhat more advanced level than the skills of comprehension and application.

Analysis deals with both content and form.

Analysis has been divided by Bloom into three levels:

a. classification of elements. A communication may have elements which are not clearly labelled or identified. Many of these elements may be extremely important in determining the nature of the communication; the reader must be able to detect them in order to fully comprehend or evaluate the communication.

b. identification of relationships among the elements. The reader must be able to determine the connections and interactions among the parts of a communication. The major relationships among the elements must be determined. This could be the relationship of the hypotheses to the evidence. Much of the analysis of relationships may deal with the consistency of part to part, or element to element; or the relevance of elements or parts to the central idea or thesis in the communication.

c. recognition of the organizational principles. Rarely will the producer of a communication explicitly point out the organizational principles he has used and quite frequently he may not be aware of the principles he has utilized. The reader must be able to analyze the organization--the systematic arrangement and structure which holds the communication together. This includes the 'explicit' as well as the 'implicit' structure. It includes the bases, necessary arrangement, and the mechanics which made the communication a unit. (6)

Please continue.......

One of the five examples of objectives listed on this page is not in the analysis category; all others are. Locate the alien and check your answer on the following page.

____ a. Upon observing the personal interactions of a group of five people, the student will be able to discriminate between the types of motives demonstrated by each.

____ b. After reading two works of Voltaire, the student will be able to write a statement of the author's purpose.

____ c. Given a description of seven sequential relationships, the student will identify which are cause and effect relationships.

____ d. When given an experience, the student will devise two different ways to form a conceptual structure. Both forms will be internally consistent logically.

____ e. When given an hypothesis, the student will devise a logical method of testing it.

Turn to page 73
to check your choice.

d does not belong!

When given an experience, the student will devise two different ways to form a conceptual structure. Both structures will be internally consistent logically.

This is an example of the next highest category, SYNTHESIS. It is the putting together of elements and parts so as to form a whole.

The categories are getting more and more sophisticated now.

Two remain:

SYNTHESIS

and

EVALUATION.

If you feel you need to review analysis, please regress to page 71.

If not, go on to page 74.

SYNTHESIS

Category No. 5 is synthesis. Here we encounter a process of working with elements, parts, etc., and combining them in such a way as to constitute a structure or pattern not clearly there before. This category, more than any other in the cognitive domain, provides for creative behavior on the part of the learner (even though the student is expected to work within the limits set by particular problems, materials, or some theoretical and methodological framework).

In synthesis, the learner must draw upon elements from many sources and put these together into a structure or pattern not clearly there before.

Different kinds of synthesis are determined on the basis of the product. They are:

1. Production of a unique communication. The author develops a communication in which he attempts to convey ideas, feelings, and/or experiences to others. His purposes may be to inform, to describe, to persuade, to impress, or to entertain.

2. Production of a plan, or proposed set of operations. Example:

Proposed set of operations	Process--carrying out set of operations	Expected outcome
Specifications for a new house	Building the house	The house

3. Derivation of a set of abstract relations. The distinguishing feature here is the attempt to derive abstract relations from a detailed analysis. The relations themselves are not explicit from the start; they must be discovered or deduced.

Please go on...

All but one of the following samples of behavior belong in the synthesis category. Please locate it and turn to page 76 to check your answer.

____ a. The student will present a two-minute talk which has an identifiable introduction, body, and conclusion when presented with a topic as he rises to speak.

____ b. The student will correct errors in organization of a written piece and rewrite it when presented with a poorly organized composition.

____ c. When given an hypothesis, the student will devise a logical method of testing it.

____ d. Ability to write creatively a story, essay, or verse for personal pleasure, or for the entertainment or information of others.

____ e. When presented with the results of an investigation into a social problem, the student will organize and present a plan to generate a logical solution.

Please check your
answer on the next
page.

e is out of place!

When presented with the results of an investigation into a social problem, the student will organize and present a plan to generate a logical solution.

The above is an example of the sixth, and last, category: EVALUATION. It is placed at the end in the classification scheme because it is regarded as being at a relatively late stage in a complex process which involves some combinations of all the other behaviors of knowledge, comprehension, application, analysis, and synthesis.

If you chose the wrong answer, please review

SYNTHESIS

on page 74.

If you were correct, go on to

EVALUATION

on page 77.

EVALUATION

When judgments are made about the value of materials and methods for given purposes, we have evaluation. It involves the use of criteria as well as standards for appraising the extent to which materials are effective, accurate, economical, or satisfying. Judgments may be either quantitative or qualitative; criteria may be those determined by the student or those which are given to him.

Although last on the list, evaluation is not necessarily the last step in thinking or problem solving. Quite possibly, the evaluative process may be the prelude to acquisition of new knowledge, new attempts at comprehension or application, or a new analysis and synthesis.

Two types of evaluations are cited:

1. Judgments in terms of internal evidence. Concerned with tests of the accuracy of the work as judged by consistency, logical accuracy, and the absence of internal flaws.

2. Judgments in terms of external criteria. Concerned with considerations of efficiency, economy, or utility of specific means for particular ends.

Please turn to page 78.

Please isolate the educational objective in the following list of five which does not belong in the evaluation category. Turn to page 79 to check your answer.

____ a. Knowledge of the important principles by which experience with biological phenomena is summarized.

____ b. The student will, when presented with a position paper of a candidate for public office, be able to describe the logical fallacies which are most obvious.

____ c. The student will, when given the names of two human cultures, be able to search the literature available to him and write an assessment--comparison of the success of the two cultures in making the greatest use of the environment for the benefit of its people.

____ d. When presented with a paper containing technical terminology, he will be able to differentiate by listing separately those words which add more precision to the text by permitting a more appropriate definition of terms and those words which merely replace a common name by an esoteric one.

____ e. Judging by external standards, the ability to compare a work with the highest known standard in its field--especially with other works of recognized excellence.

Page 79, please.

a sticks out like a sore thumb. It belongs to category No. 1 - Knowledge.

If by any chance you stumbled on the preceding page, please review that last section.

If you were correct, please go on to your final examination on the next page--unless you want to quickly scan the six categories for a few minutes. You may go back to page 63 and devote 15 minutes to review.

Final examination begins on page 80.

Here is a list of fifteen behavioral objectives which you are to identify according to Bloom's six cognitive domain classifications. You have done satisfactory work if you achieve at least ten correct answers.

Please utilize this code for your answers:

1 knowledge

2 comprehension

3 application

4 analysis

5 synthesis

6 evaluation

____ 1. When presented with a problem involving two different arithmetic syllogisms previously learned the student will select the appropriate syllogisms and use them to solve the problem successfully.

____ 2. When presented with the opposing views of two antogonists in a criminal trial the student will make a judgment based on the evidence and supply written support for his decision.

____ 3. Given a technical paper in the computation of horsepower, the student will rewrite it in his own words using common language.

____ 4. Given a set of Cuisenaire rods and an appropriate problem, the student will be able to discover the mathematical relationships that exist and solve the problem using these relationships.

____ 5. The student will be able to describe the major steps in the process of human evolution.

____ 6. The student will be able to list the presidents in order from Harding to Nixon.

Please go on to page 81.

____ 7. When presented with a symphony of the romantic period the student will be able to divide the work into major symphonic parts and indicate how the underlying theme welds the composition together.

____ 8. The student will be able to give examples of immediate consequences (make immediate inferences) which could result from an event the general implications of which are explained.

____ 9. Participants will when presented with a list of 13 behavioral objectives selected from Bloom's Taxonomy be able to identify the category for each according to Bloom's six cognitive domain classifications with a score of nine or better.

____ 10. When presented with a description of the plot of any Shakespearian play the student will correctly name the play.

____ 11. When given a general statement the student will be able to identify the particulars which apply to the generalization.

____ 12. When presented with a science problem the student will correctly identify the mode of solution to the problem and employ it in a successful solution.

____ 13. The student will recall what is characteristic of particular periods in American history.

____ 14. The student must recall the principles of ecology and apply the appropriate ones to the situations named in the problem situation.

____ 15. The student will write a unified paper on some restricted aspects of the question of the future of private property in America. In this paper he may argue in support of some form of ownership which he favors, attack upon some from which he opposes, or both.

The correct answers
are on page 82.

ANSWERS

3 1.

6 2.

2 3.

5 4.

1 5.

1 6.

4 7.

2 8.

6 9.

1 10.

4 11.

3 12.

1 13.

3 14.

5 15.

If your score is ten or better--BRAVO!

If not--it's a

Blooming shame!

END OF UNIT.

BIBLIOGRAPHY

1. Tyler, Ralph W., Constructing Achievement Tests, Columbus, Ohio, The Ohio State University, 1934, vi-102 p.

2. Mager, Robert F., Preparing Instructional Objectives, Palo Alto, California, Fearon Publishers, 1962, viii-60 p.

3. Bloom Benjamin S., editor, Taxonomy of Educational Objectives - The Classification of Educational Goals - Handbook I: Cognitive Domain, New York, David McKay Company, Inc., 1956, 207 p.

4. Same as No. 1.

5. Same as No. 3.

6. Same as No. 3.

Patrick Babin

A
CRITICAL
LOOK

A CRITICAL LOOK AT MICRO-TEACHING

Welcome to the second day of the second University of Massachusetts Micro-Teaching Conference. It is a pleasure for me to have this opportunity of talking with you. I emphasize talking with you because I hope that my comments will be brief enough to allow time for discussion afterwards.

I first began to become informed about micro-teaching when I became a graduate student at Stanford in the fall of 1964. It was my good fortune at that time, and throughout my three years at Stanford to work with Dr. Allen as he and his colleagues, associates, devotees and detractors developed the concept and operation of micro-teaching.

In the years that I have been involved in micro-teaching its conceptualization and operation has expanded. Developments in micro-teaching have led to developments in other aspects of teacher education. You have already heard or will be hearing of the advantages of micro-teaching. The development and uses of performance criteria and technical skills are being presented fully in this conference. The use of models as an effective ingredient in a teacher training program has been and will be fully illustrated. The concepts of supervision which have evolved as micro-teaching has evolved will be discussed. The uses of television and video taping which have been imaginatively developed through micro-teaching clinics I hope will be demonstrated in full.

In order to offer you a point of view which may serve to give you some perspective on what you are presented during the conference, I want to share with you questions that I have about micro-teaching, questions that deal not only with micro-teaching, but also with our concept of what teacher education should be and ultimately what education for our students should be. I want to offer these questions not as a heretic in the conference but in attempt to promote a critical consideration and dialogue concerning the ideas being presented at this conference. Such a critical consideration micro-teaching will no doubt survive, and hopefully will be ultimately strengthened and used most wisely.

Micro-teaching, as it was developed at Stanford, was strongly influenced by behavioristic psychology. Micro-teaching as I know it reflects a behavioristic view of the world. Micro-teaching trains teachers to perform in ways those who are running the program think is good. Like a programmed teaching machine, the goals of micro-teaching are set by those who administer the program; the goals are then analyzed in terms of their component parts, and a pattern is devised that will lead the teacher trainee to perform in the desired way we think they should.

I would express a note of caution about a psychology that has been mainly developed using rats and pigeons as the experimental subjects. Do we want to base micro-teaching on a psychology whose most prestigious advocate says:

> Science is more than the mere description of events as they occur. Science not only describes, it predicts. Nor is prediction the last word to the extent that the relevant conditions can be altered, or otherwise controlled, the future can be controlled. If we are to use the methods of science in human affairs, we must assume that behavior is lawful and determined. We must expect to discover that what a man does is the result of specifiable conditions, and that once these conditions have been discovered, we can anticipate and to some extent determine his actions. (B. F. Skinner, Science and Human Behavior, Macmillan Co., 1953, p. 6)

In short, do we as educators want to base a micro-teaching program on a psychology whose goal its chief advocate sees as the prediction and control of human behavior. As educators are we not interested in the freedom of the human animal and not his control?

If we accept behaviorism as the psychological base of micro-teaching, we are then involved in a program which trains rather than educates? Do we want to be involved in training teachers? If we do, when and how does such training relate to their education? I tend to reject an involvement in training teachers for a number of reasons. First of all, do we know enough? To be really honest as educators I think that we would have to admit that we know precious little about what good teaching is. At this point would it not be presumptuous for a group of us to get together and decide on a set of skills that our novices should master? Can we pretend that these skills would be the necessary ingredients for good teaching for all our trainees? I suggest that we do not know enough about what good teaching is to know whether the skills being defined are necessary, and intuition tells us that they are certainly not sufficient for good teaching.

Even if we grant that we have come up with technical skills and performance criteria which are important to good teaching, I would question whether we should train our students to perform them. By doing so, wouldn't we be perceiving our interns as automatons who could be shaped to behave appropriately? As Peter Wagschal has written in an article called "Performance Versus Experienced Based Curricula", (available through the School of Education at the University of Massachusetts):

> We would all agree that human beings can be manipulated, but the question is not one of fact but of value; the question is whether teacher education should be conceived and designed as a comprehensive system of behavioral control. Those who urge the use of performance criteria are taking at least an implicit stand in favor of manipulation towards the behavioral goals they deem desirable. I, on the other hand, would quite explicitly take the reverse stand; insofar as we consciously control the behavior of other people, we may be able to produce beings which perform in manners which we deem adequate, but we are in no way helping to produce human beings.

Another question I have about micro-teaching as I have seen it developed so far, is the assumptions it makes about teaching and learning, and about the role of the teacher in the process. Most of the skills that I see being discussed, "reinforcement", "probing", "higher order questioning", "silence", presuppose the idea that the teacher's role is to control the students and to direct the class. As those who are training teachers assume that it is their role to control the training of the teachers, the skills developed in micro-teaching induce the same relationship between the trainee and his future students. If we treat our interns mechanistically, how will they treat their students? As of yet, and I would love to stand corrected, I have seen no skills developed which assume any other role for the teacher than that of controller of the students' behavior. Yet it seems to me that some of the most recent interesting ideas about teaching challenge that concept of the role of the teacher. Those of you who are familiar with Carl Roger's concept of a teacher as one who facilitates learning by acting as a resource for his students would find it hard to see how that concept of the teacher fits into what has been done in micro-teaching to date.

A purely pragmatic question along these lines of faciliating learning might be whether the highly structured micro-teaching process really does facilitate learning. I am reminded of a conversation between Dean Allen and Robert Mager which might be entitled "Students are better than we give them credit for being". In that conversation Mager suggested that we encumber students with too much in the way of instruction, assignments, and drills, more than is necessary for them to achieve the objectives we have for them. He goes on to talk about his well-known meter reading experiment. He devised an intricate programmed instruction system to teach girls to read complicated electrical meters used to test products on a production line. He found that his programmed instructional system did reduce the training time to an hour and a half for training which previously took a number of days. Fortunately or unfortunately, depending on your point of view, in the next door lab, he was doing a learner controlled instruction experiment. In that experiment, the task was the same, but the learner could turn the instructor on and off like a TV set. The student was free to use the instructor as he saw fit, ask him what questions he wanted to ask, or ignore him as much as he wanted. Mager found that the students in this group achieved the same criteria level not in an hour and a half, but in an average of twenty minutes. Those results led him to ask the question: "How is my program getting in the way of the students?" For those of us working with micro-teaching, it will be imperative that we be sensitive to the possibility that our highly constructed sequential program might be getting in the way of some of our students.

The focus of my questions have been on the psychological base of micro-teaching and its mechanistic use as a training procedure. I have no doubt that micro-teaching could be used not just for training teachers but for educating them. But to do so we would have to forego the precepts of behaviorism, and think in terms of education rather than in terms of training.

In educating teachers there could not be a presumption to come up with a list of skills which it would be necessary for all our prospective teachers to perform. Even if we thought we knew of some skills that might be useful, we would object to training students to perform them; instead we would present them for their critical examination and let them decide whether they are appropriate for the kinds of teachers that they want to be.

We would object to emphasizing technical skills on the grounds that to do so is to treat our teachers like automatons; but we do also do so out of an intuition that tells us that the sum of technical skills does not equal good teaching. That moreover the really consequential aspects of teaching are so intimately related to the person who is the teacher that they are untrainable in the sense currently used in micro-teaching parlance. I am convinced that anything we can train a person to do in an operant conditioning model is inconsequential to good teaching.

What I am suggesting is that the micro-teaching process could be a very potent process, if we were to assume different goals, ask different questions in the process, and use different means.

What I think micro-teaching has to offer most effectively is a vehicle for exploring with the prospective or experienced teacher the relationship between the type of person he is and the type of teaching in which he engages.

Micro-teaching and especially the use of video tapes in micro-teaching offers us an opportunity to help the teacher become more sensitive to himself and to his students and to the interrelationship of those sensitivities.

The questions I am interested in are not, did you reinforce that student, but were you really listening to that student, were you interested in what that student had to say, do you appreciate the worth your sense of his worth. The problem with the behavioristic model of reinforcement is simply that no amount of training to say good, yes, uhuh, will do any good unless those gestures are backed up by an authentic feeling on the part of the teacher. Students are not rats, they can discriminate between the sugar and artificial sweetners. They can tell whether a teacher is a phony. Training teachers to reinforce may well be training phoniness, if the process does not pay attention to what is going on inside of the person who is offering the gesture. I am much more interested in working with prospective teacher's concerns about their self concept, which without a doubt I believe effects their reinforcement skills, than in working to train them to make gestures which are merely a reflection of their self concept. I am much more concerned with helping a prospective teacher become sensitive to why he talks so much of the time, and why he tends to get uncomfortable after a few seconds of silence rather than training him in the technical skills of silence. Of course I am polarizing the issue, but only because I have seen the emphasis so heavily on the behavioristic side.

These types of questions and concerns obviously presuppose a different supervisory ethos. There is no right and wrong behavior to reinforce or punish when you are dealing with these types of concerns. The supervisor must very frankly have the sensitivity of a therapist; he must be able to distinguish symptoms from causes; he must realize that the most effective learning is when the prospective teacher is learning for himself about himself, rather than being told; the supervisor must engage in a helping relationship, which requires that he accept the prospective teacher where he is, that he is sincerely interested in the person, and not just in the product. The teacher trainer must become as aware about himself as he hopes his trainees will be when trained.

Of course the production line rate at which we must train teachers works mightily against such an individualized approach to teacher education. That is precisely my point. Micro-teaching has I think the ability to offer us a chance to get at the consequential aspects of teaching, the relationship between the person and the teacher, and yet to date it has developed only a more efficient way to train teachers to meet minimal criteria of performing technical skills. The process, because of its highly focused nature and the use of video tape, provides an excellent opportunity to help the prospective teacher look at himself and learn something about them as people, but before this will happen we will have to reexamine the goals of the process and the appropriateness of basing the process on a mechanistic psychology. In place of the mechanistic process, we would substitute a more integrative approach, the emphasis of which would be to help the teacher become more aware of who he and his students are. Rather than training our teachers to be what we want them to be, we would develop the micro-teaching process to facilitate their becoming what they want to be.

I hope that my questions and thoughts on micro-teaching offer you a perspective.

Earl Seidman
Assistant Dean
University of Massachusetts
July 8, 1969

UNIVERSITY
OF
OTTAWA
MICROTEACHING
CLINIC

COURSE DESCRIPTION

"Microteaching: Theory and Practice"

The focusing on specific teaching behaviors via a scaled-down teaching encounter utilizing a teach-reteach (videotaped) sequence with an intervening critique session. Large group skill presentations followed by team teaching and supplementary individualized practice sessions. Emphasis on behavioral objectives in lesson planning along with self and group-evaluation.

BASIC TEXTBOOK

Allen, Dwight, and Kevin Ryan, Microteaching, Don Mills, Ontario, Addison - Wesley Publishing Co., Inc., 1969, xv-151 p.

FACULTY OF EDUCATION

MICROTEACHING SCHEDULE

FALL - 1969

SEPTEMBER

M	T	W	T	F
22	23	24	25	26
29	30			

OCTOBER

M	T	W	T	F
		1	2	3
6	7	8	9	10
T	14	15	16	17
20	21	22	23	24
27	28	29	30	31

NOVEMBER

M	T	W	T	F
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28

DECEMBER

M	T	W	T	F
1	2	3	4	5
8	9	10	11	12
15	16	17	18	19

Microteaching Dates - encircled 0

Large group encounter - squared ☐
(training lectures)

CREATING THE SETTING

ESSENTIAL CONDITIONS:

1. Microteaching is real teaching. Although the microteaching situation is structured in that the teacher and students are brought together specifically for practice, actual teaching does take place.

2. Microteaching involves a deliberate reduction of the complexity of the normal teaching situation. The number of students, the scope of the content which is presented to those students, and the length of class time are all reduced within the microteaching setting.

3. In microteaching, the focus of teacher training is reduced in order to accomplish a specific task.

4. Microteaching allows for an increase in the control of practice sessions.

5. Microteaching greatly expands the typical feedback dimension in teaching. Immediately after presenting a brief microlesson, the trainee obtains maximum insight into this performance through a critique which utilizes several sources of feedback.

MICROTEACHING SEQUENCE

1.	DIAGNOSTIC PRESENTATION	5-Minute Lesson 4 High School Students
2.	CRITIQUE - GENERAL PERFORMANCE ANALYSIS	Individual Conference with Staff Member
3.	LECTURE/DEMONSTRATIONS ON SPECIFIC TEACHING SKILLS	Weekly Large-Group Session - By Staff
4.	MICROTEACHING TEACH/RETEACH PRACTICUM	
	a. INTERN TEACHING SESSION	5-Minute Lesson 4 High School Students
	b. CRITIQUE	10-Minute Session with Staff, H. S. Students, Peers
	c. REFINEMENT BREAK	Intern 15-Minutes
	d. RETEACHING	5-Minute Lesson 4 New High School Students
	e. CRITIQUE	10-Minute Session (Same as (b) above)
	PERFORMANCE GOAL EVALUATION	10-Minute Lesson 4 High School Students

TWO - STATION CYCLE

ALPHA	BETA
ALPHA	**BETA**
1. 5-Minute Minilesson	1. 5-Minute Minilesson
2. 10-Minute Critique	2. 10-Minute Critique
3. Break for Teaching Intern (at which time he can refine his lesson)	3. Break for Teaching Intern (at which time he can refine his lesson)
4. During Break, Another Intern Goes through a 5-Minute Lesson and a 10-Minute Critique (same high school students)	4. During Break, Another Intern Goes through a 5-Minute Lesson and a 10-Minute Critique (same high school students)

→

High School Students Move from One Station to the Other

←

ALPHA	BETA
5. Reteach to a Different Group of Students for 5 Minutes	5. Reteach to a Different Group of Students for 5 Minutes
6. 10-Minute Critique	6. 10-Minute Critique

STRICT ADHERENCE TO TIME SCHEDULE ESSENTIAL!

LARGE-GROUP SKILL PRESENTATION

1. Always read the written description of each skill along with the film typescript before viewing. You should be thoroughly familiar with the film's content before its presentation.

2. Following the viewing, you are encouraged to participate in the discussion of the teaching skill(s) presented along with the model performance of the skill with the teachers. The goal of the discussion is to insure that you understand what the skill is, how it is applied in the classroom, and what is expected of you in microteaching.

3. Before you plan your microteaching lesson, be cognizant of the length of your lesson, your specific objective, the time of reteach, and the age level of your pupils.

TRAINING LECTURES

SCHEDULE

DATE	TIME	SKILL(S)	
		Verbal responses	No film
		Nonverbal responses	No microteaching
		Verbal and nonverbal responses	Audiotaping
		Fluency in asking questions	Film - MT
		Probing questions	Film - MT
		Higher order questions	Film - MT
		Divergent questions	Film - MT
		Set induction	Film - MT
		Stimulus variation	Film - MT
		Closure	Film - MT
		Reinforcement	Film - MT
		Recognizing attending behavior	Film - MT
		Silence and nonverbal cues	Film - MT
		Cueing	Film - MT
		Completeness of communication	Film - MT
		Lecturing	Film - MT
		Use of examples	Film - MT
		Planned repetition	Film - MT
Room	____		

ACTUAL MICROTEACHING

1. Choice of lesson. Check with your director. Be sure you know how long you are to teach. Choose a topic which can be adequately developed within this time limit. Always state your lesson objective in behavioral terms. Keep your particular teaching skill(s) in mind.

2. Practice. Write a brief plan of your lesson and then try a practice run with friends or classmates in a simulation exercise.

3. Timing. Time yourself on a trial run.

4. Dress. As a teacher you communicate not only through what you say, but by how you say it and by your appearance. If you want students to take your teaching seriously, you should speak and dress like a teacher.

5. Time and place. Check the special bulletin board at the microteaching clinic to be sure you know when you are to teach (sometimes schedules must be changed due to equipment failure or other unavoidable eventualities). Punctuality is important as the clinic is operated on a carefully coordinated time schedule.

6. Getting started. Your director will meet you at your assigned microteaching station. Take the time to clarify with him any last-minute questions you may have. Teaching aids should be set up before the lesson begins. Your students will be requested to wear name tags.

7. You're on! When the camera operator signals you to begin, start your lesson immediately. Speak clearly and loudly enough to be heard easily by all persons in the room. When the timer rings, stop your lesson (even though you may not have reached a conclusion).

8. You're off! When you have finished, wait for the student evaluators to complete their appraisal scale. Leave your microteaching station the way you found it.

9. As soon as the evaluators complete their appraisal, your director will invite you to sit and review your videotape. Constructive suggestions for improvement will be made at this critique.

10. Now let's do it again! Having taught your lesson once and having identified areas for improvement, you will be asked to make the necessary changes preparatory to a reteaching of the lesson.

Making Your Microteaching Experience a Beneficial One:

1. Do not be on the defensive. Your director is aware that this is your first teaching experience and wants it to be as pleasant as possible for you. He has evaluated a lot of teaching and will be helpful in identifying both your strengths and weaknesses and in making constructive suggestions for improvement.

2. Don't be too hard on yourself. It is good to have high standards but it is also necessary to keep the proper perspective. Some student teachers have unrealistically high expectations with regard to their own performance or that of their students. It takes a lot of practice and experience to become a good teacher.

3. Ask questions and make comments about your microteaching and the program itself. This is a young program and we would appreciate constructive suggestions as to how we can improve it.

VIDEOTAPING

1. Video tape increases the amount of feedback available to the teacher.

2. Video tape provides a record of the actual behavior of the teacher and the students. The director and the teacher may refer to this record during the critique.

3. The director can use the video tape record for immediate reinforcement of desired teacher behavior.

4. When constructive criticism is directed at his image on the monitor rather than at his person, the teacher more readily accepts the criticism.

5. Tapes can be replayed as often as desired or necessary.

6. Tapes can be kept for future reference. Comparisons of early tapes with later ones may demonstrate, quite dramatically, a teacher's progress.

7. When a director is not present, a teacher may use the video tape himself to examine his teaching.

DIAGNOSTIC PRESENTATION

At the beginning of the training program, a diagnostic video tape record of a lesson will be made in which the student practices no particular skill. This diagnostic lesson will provide a base-line from which to assess the student's progress over the course of the training program. Upon completion of the program, an achievement record of the student can be made. Again, the student will not focus on a particular skill. Comparison of the diagnostic lesson with the achievement lesson can demonstrate the student's progress.

You have been scheduled for a familiarization practice period. You will prepare a lesson for this practice period not to exceed five minutes in length. Since the objectives of clinical practice are behavioral, your choice of topic is not restricted except that you are asked to relate it to the teaching field that you plan to enter.

Structure of the practice lesson:

In discussing the rationale for your familiarization experience, we will refer to an analogy that teaching of a microlesson is comparable to the writing of a paragraph. Any lesson can be divided into episodes, each dealing with a specific aim of the overall educational goals. The view taken here is that courses are divided into parts or units; units into sections, sections into period-long lessons, and period lessons into subsections. We call a subsection a lesson episode, and visualize it as analogous to a paragraph within a longer work.

A complete episode, like a complete paragraph, has an introduction, a body, and a conclusion. The introduction to a paragraph usually sets the theme and identifies the topic to be dealt with in the body of the paragraph. The introduction of a lesson episode fulfills the same function as that part of a paragraph. The conclusion of a paragraph is generaly used to restate the major idea of the paragraph and provide a lead into the next paragraph. The conclusion of a lesson episode serves the same function with one significant difference. Teachers frequently employ questioning techniques to determine whether or not the learners have attained the aims of the episode. Remember a lesson episode is roughly analogous to a paragraph, and like a paragraph, it generally has a beginning, a middle, and an end.

Two considerations:

Writing and teaching are purposeful activities. To be successful in his purposes, the teacher, like the writer, must carefully consider two factors: his intended audience and his controlling objectives. Sensitivity to ones audience and clarity of objectives will be emphasized in your clinical familiarization experience.

Sensitivity.

Analogies have a way of breaking down when pushed and ours at least bends here. Since writers seldom face their audience live they have difficulty in gauging the success of their attempts at communication. The writer makes an educated guess; if he hits, he sells, if he misses, he goes unpublished. The writer may also choose to communicate with an extremely limited audience or to no one except himself.

Unlike the writer the teacher always faces his audience and therefore has a good opportunity to estimate the success of his efforts at each step of the way. Then there is the matter of pay. If one does not wish to read an author, one does not buy his works, but the teacher is salaried and thereby accepts an obligation to communicate effectively with each learner.

to discharge this responsibility, skillful teachers continuously monitor the reactions of their students. Teachers become very sensitive to two general classes of student reactions: verbal and nonverbal behavior.

The term verbal behavior refers to the vocalized responses of the students. Do the students ask relevant questions or when asked questions, do the students make meaningful responses? To utilize these sources of information, the teacher must provide some opportunity and encouragement for students to overtly respond to the lesson throughout its progress.

Nonverbal communication refers to a host of behavioral cues, many idiosyncratic. Grossly, the classificatio refers to such student behaviors as facial expressions, body position and movements, hand and foot movements, and non-word auditory responses.

Your first task will be to demonstrate some sensitivity to these cues, because until you do, you have no way of determining the degree of success of your teaching efforts. Your director will ask you to criticize your own microlesson by estimating the number of communications that you achieved with your microclass students.

Objectives.

The teacher, like the writer, has some purpose for his activities. His purpose or aim might be to convey a body of knowledge, to interpret a body of facts in terms of a theory, to convey an impression or emotion or any of a host of other worthy goals. Your lesson might have a goal and you must be able to clearly state what your goal is. This does not mean that you need start your lesson with such a statement, or that you need to explicitly state your goal at any time during the lesson, but it does mean that you should make some provision in your lesson for communicating the purpose of their efforts to the students. Your goal might be one of discovery or analysis rather than content. When this is the case, the purpose of your lesson may unfold slowly. In other cases, you may wish to help the students enlarge their understanding of an item and you might simply so state.

FACULTY OF EDUCATION	Name: ______________
MICROTEACHING CLINIC	Date: ______________
MINILESSON PLAN	Station: ________ Team: ______

PRIOR TO TEACHING

1. SPECIFIC BEHAVIORAL OBJECTIVE(S):

2. AUDIOVISUAL AIDS AND OTHER MATERIALS TO BE USED AND RATIONALE FOR CHOICE:

3. HOW DO YOU INTEND TO ACCOMPLISH YOUR OBJECTIVE(S)?

AFTER TEACHING

4. SUCCESS OF LESSON. CITE POSITIVE AND NEGATIVE. EXAMPLES:

5. WHAT CHANGES DO YOU INTEND TO MAKE FOR RETEACHING?

[illegible]. (continued):

AFTER RETEACHING

[illegible]. EFFECTIVENESS OF CHANGES MADE FROM FIRST TEACHING:

TEACHING
SKILLS

SKILLS

INSTRUCTIONAL SKILLS

1. Response Repertoire
    a. Verbal responses
    b. Nonverbal responses
    c. Verbal and nonverbal responses

2. Questioning Skills
    a. Fluency in asking questions
    b. Probing questions
    c. Higher order questions
    d. Divergent questions

3. Creating Student Involvement
    a. Set induction
    b. Stimulus variation
    c. Closure

4. Increasing Student Participation
    a. Reinforcement
    b. Recognizing attending behavior
    c. Silence and nonverbal cues
    d. Cueing

5. Presentation Skills
    a. Completeness of communication
    b. Lecturing
    c. Use of examples
    d. Planned repetition

TEACHING SKILLS

RESPONSE REPERTOIRE

It is important to note that the first cluster of exercises, Response Repertoire, deviates considerably from the normal microteaching procedure. Because these exercises are comparatively simple and are elemental to nearly all the other skills included in the package, we recommend that Response Repertoire be the first cluster of skills to be practiced.

Verbal Responses

Both this exercise and the one involving nonverbal responses differ from the other skills in that they are not practiced in the usual microteaching situation. Neither students nor lesson plans, film typescripts nor evaluation sheets are required.

The purpose of the Verbal Response exercises is to expand the number of responses familiar to the teacher. The teacher may practice verbal responses either with a supervisor or by using an audio tape recorder. We recommend that the teacher record the exercise on an audio tape, listen to it with his supervisor, and then practice again the statements that did not convey the intended meaning. This is the one skill for which audio tape is preferable to video tape. The teacher should try to convey his meaning only by voice inflections, pitch, tone, and word emphasis. An audio record forces the supervisor to interpret the teacher's statements without the help of nonverbal cues, such as gestures or facial expressions.

The supervisor should listen carefully to the teacher's voice. For each response, he should compare his impression of the teacher's meaning with what the teacher has written on his verbal statement sheet.

When there is a discrepancy, the supervisor should stop the recorder. He should discuss the discrepancy with the teacher. He should inform the teacher of the meaning he is receiving and offer suggestions as to how the teacher might convey the desired meaning. The teacher should practice the response again in the supervisor's presence. However, the supervisor and the teacher should not dwell too long on any one response. In another session, the teacher may practice further the responses that are particularly difficult for him.

The number of sessions spent on the response repertoire exercises is a function of the teacher's progress. The supervisor must determine whether or not the teacher is expanding his range of responses, verbal and nonverbal. Some teachers will quickly master versatility in expression; others will require numerous sessions to do so.

Nonverbal Responses

The purpose of the nonverbal response exercise is to help the teacher communicate his feelings or emotions through the use of gestures, facial expressions, and body movements. The supervisor should emphasize that part of teaching is acting. He should encourage the teacher to practice these responses without inhibition.

As with the verbal response exercise, this exercise is not practiced in the presence of students. Instead, the teacher should first prepare a list of emotions and appropriate nonverbal techniques with which to express them. He should then practice the responses in front of a video camera. The use of video tape is quite important with this skill. The teacher needs some means of seeing how he appears to others. A supervisor should be present when the teacher practices.

It is preferable to have the teacher try several responses at a time. These responses should be reviewed on the video tape before advancing down the list.

If video tape equipment is not available, the supervisor should make comments regarding each demonstration before the teacher proceeds to the next one. In the absence of video tape, then, the teacher should receive instant feedback on how well he is conveying the intended emotion. In this case, it might be helpful if there were several people (e. g., a supervisor and two or three colleagues) present so that different points of view could be expressed. The colleagues could then take turns practicing the exercise.

Verbal and Nonverbal Responses

This exercise provides an opportunity for the teacher to practice the combined use of verbal and nonverbal responses. The teacher should perform the exercise in the presence of his colleagues or a supervisor. If possible, a video tape recorder should be used.

The supervisor should make sure that the teacher practices a wide variety of responses. He should not let the teacher rely on a small number of gestures, facial expressions, or phrases.

QUESTIONING SKILLS

Fluency in Asking Questions

The purpose of this exercise is to develop fluency in asking questions. The emphasis is on the *number* of questions asked, rather than on the *kind* of questions asked. If a teacher is already fluent in asking questions, he may start with the skill of asking probing questions.

This exercise is quite beneficial to teachers who tend to lecture or who are initially uncomfortable with classroom instruction. It can also function as a loosening-up exercise for practicing the other questioning skills.

Thus, it may be beneficial to schedule some sort of diagnostic lesson for participating teachers. Such a lesson provides an opportunity to individualize instruction, allowing some teachers to bypass this skill and proceed directly to the next one, while those who need to practice this skill can do so.

The teacher in the model film demonstrates a style quite effective for teachers who are not used to asking questions. He establishes certain patterns of questions. One such pattern requires each student to determine the next number in a sequence of numbers. This procedure makes it easier for the teacher to develop a questioning style, simply because it is easier to ask questions based on certain patterns than it is to make up many unrelated questions. When the teacher becomes comfortable with a questioning style, he should be encouraged to ask questions which do not depend on a pattern. When he can do this, he should proceed to the skill of asking probing questions.

The supervisor should tally how many questions the teacher asks. A comparison of a diagnostic lesson with subsequent lessons should indicate a significant increase in the number of questions asked.

Probing Questions

In this exercise, the teacher continues to practice questioning skills by developing the use of probing questions. It should be pointed out, however, that in the model film not every question the teacher asks is a probing question. Many questions are initiatory,

i. e., they elicit an initial response from the student.

Once the student has responded, the teacher probes the student's response. Some of the probing questions the teacher asks require the students to remember facts or to describe something they see. The teacher also asks "higher order" questions, which require the students to make comparisons, inferences, evaluations, or to relate ideas.

The use of video or audio recorders is especially recommended for this skill. With technical assistance, the teacher and the supervisor can, for example, easily determine places in the lesson where the teacher should have asked probing questions.

Higher Order Questions

Video or audio tape recorders are also important for supervision of this exercise. It would be difficult for the supervisor to transcribe all the higher order questions the teacher asks and all the students responses. However, with video or audio tape, the supervisor can replay the teacher's lesson. He can show the teacher the effect of higher order questions on the students' thought processes.

The supervisor should do a frequency count of each of the six categories of higher order questions the teacher uses in his microteaching lesson. Any category that is not included should be discussed during the critique.

Because not every question the teacher in the model film asks is a higher order question, the words "Higher Order" appear on the screen when appropriate.

Divergent Questions

As with the skills of probing and higher order questioning, this exercise profits from the use of an audio or video tape recorder.

In the model film, the word "Divergent" appears on the screen whenever the teacher asks that kind of question. This helps the teachers differentiate divergent questions from the other kinds.

The supervisor should note that question (4) on the evaluation sheet should be answered in the affirmative. When first asked divergent questions, many students are uncomfortable because there are no "right" answers for them to lean upon. They are reluctant to explore and hypothesize for fear of giving wrong or foolish answers. As a result they try to pick up cues from the teacher as to what answer is wanted. If the teacher gives these kinds of cues, however, his questions are not truly divergent, because divergent questions have no "right" or "wrong" answers. If, on the other hand, the teacher is not giving cues, some students are likely to feel uncomfortable and uncertain. This should be viewed as a favorable, not an unfavorable, sign.

CREATING STUDENT INVOLVEMENT

Set Induction

The exercises in set induction are concerned with preparing students for learning and establishing communication between students and teacher. Set induction should be practiced in a five to ten minute microteaching lesson that could serve as an introduction to a hypothetical longer lesson. This procedure should be explained to the students, as well as to the teacher.

After some practice with the skill, the teacher should try a longer lesson in which he integrates set induction with the main part of the lesson.

Set induction is related to the skill of closure. When the teacher has developed some proficiency in both skills, he should present a complete lesson, at least twenty minutes in length, which makes use of both set induction and closure.

Stimulus Variation

This skill is particularly relevant to activities such as lecturing or teacher-led discussions, in which the teacher's ability to hold the students' attention determines his success.

Six training behaviors are to be practiced. It is recommended, however, that only two or three be practiced in any one teach-reteach cycle. At least two or three sessions should be devoted to working on this skill.

After the teacher has tried each behavior at least once, he should try to combine as many of the behaviors as he can into the context of one lesson. For example, the teacher might move from one side of the room to the other, saying, "Now watch this." He writes on the board. He then steps back, points at what he has written, and says nothing more. In this sequence, the teacher has used five behaviors: movement, verbal focusing, gestural focusing, pausing, and oral-visual switching. Each behavior attracts the students' attention. The supervisor should discuss the combining of behaviors before the teacher practices them.

3

As with many of the exercises, the supervisor will find it helpful to make a frequency count of the behaviors the teacher is practicing.

Closure

The skills of set induction and closure are complementary. Unless the students achieve closure, that is, perception of the logical organization of the facts and ideas presented in a lesson, the effects of an otherwise good lesson may be negated. By using closure techniques the teacher can make sure that students understand the material and its relationship to what they already have learned.

But, unlike set induction, closure cannot be practiced out of context. Closure must be connected with a class discussion, a lecture, student reports, or some other classroom activity. Therefore, the microteaching lesson in which closure is practiced should be longer than the average microteaching lesson. It is advisable to practice the skills of closure and lecture in combination after the teacher has increased his proficiency in lecturing skills.

INCREASING STUDENT PARTICIPATION

Reinforcement

Teachers make two common errors in the use of reinforcement. First, many teachers tend to use it indiscriminately. If the teacher responds positively (by saying "Good," "Fine," "Excellent") to every student response, the words cease to have meaning. Students learn, unconsciously, to ignore them. No reinforcement takes place. A similar error occurs if the teacher uses the same reinforcement technique for every response meriting reinforcement. This error is not quite so serious as the first one. The reinforcement has some meaning to the students. But it is much more effective if the teacher uses several different reinforcement techniques.

The supervisor should encourage the teacher to vary his use of both verbal and nonverbal reinforcement techniques. If he notes that the teacher tends to use a technique ineffectively, he should alert the teacher to that fact, preferably by helping the teacher discover his own error. It is not always possible for the teacher to use each category of reinforcement in any one lesson. Thus, it may be necessary for the teacher to present more than one lesson. Before proceeding to another skill, the teacher should be comfortable with each kind of reinforcement technique and should be able to use it with discrimination

The supervisor should also encourage the teacher to combine reinforcement techniques when appropriate. For example, when a student makes a particularly good response, the teacher might say, "That's exactly it," and nod his head affirmatively as he moves toward the student. In this case, he combines one positive verbal reinforcer with [illegible] positive nonverbal reinforcers. Such a combination produces a cumulative effect. But again, indiscriminate use of reinforcement diminishes its effect.

During the microteaching lesson, the supervisor should count the number of times each category of reinforcement is used. Following the critique, he can instruct the teacher to use neglected categories in a later lesson.

Recognizing Attending Behavior

In this exercise, the teacher is asked to compare his perceptions of student attentiveness with those of his supervisor and with the record made by a video tape recorder. The supervisor himself, then, must closely watch the students' behavior in order to compare the teacher's observation with his.

We suggest that the number of students in each microteaching class be increased for this exercise. A teacher may easily be alerted to the attending behavior of only four students. The use of eight to fifteen students will produce a more challenging situation for practicing the skill.

Similarly, since it is easier to keep students' attention for short periods of time than for longer periods of time, we suggest that the lessons be lengthened. By increasing the chances of non-attentiveness, the teacher has more opportunities to recognize it. A lesson length of from ten to twenty minutes is reasonable.

After the teacher has rated students' attending behavior, he should compare his observations with those of his supervisor. Any discrepancies should be discussed and the video tape replay watched. Having recognized inattentive student behavior, many teachers will ask for suggestions on how to remedy the problem. The supervisor should be alert to possible causes for the inattentiveness and be prepared to discuss them with the teacher.

The video camera can be placed either in the front of the room or to the side, so that it records only the students' behavior. Since the teacher's voice will be recorded, student behavior can be related to the teacher's verbal behavior. (If additional recorders are available, split-screen recordings, which show both the teacher and the students on the same screen, can be made.)

If video tape recorders are unavailable, a 35mm camera is an effective substitute. Time-lapse photography of student attending behavior in actual classrooms has been quite successful. Moreover, it provides the teacher with a lasting record of his performance.

A special procedure is required for showing the model film of this skill. During the first one and a half minute sequence, the projector should be stopped and the teachers asked to describe the students' attending behavior on the rating sheets provided. The teachers will describe specific behaviors for each student and estimate how much time each student spent not attending. After the sheets are completed, they should be discussed. The supervisor will probably want to show the sequence again.

Following the one and a half minute sequence, the teacher in the model film makes an effort to gain the students' attention. His specific actions should be noted carefully. The supervisor will probably also want to repeat this portion of the film.

Silence and Nonverbal Cues

The model film for this skill exhibits a variety of nonverbal behaviors. Before showing the film, the supervisor should alert the teachers to the effects of silence and nonverbal behavior on students. Teachers profit from seeing this film more than once. In the second and subsequent showings they notice behaviors previously missed.

The supervisor should encourage the teacher to incorporate as many categories of nonverbal behavior as he can into his practice lessons. Only when the teacher feels comfortable with these behaviors is he likely to expand his classroom repertoire.

The supervisor should take a frequency count of the behaviors used by the teacher in the microteaching lesson. During the critique, the supervisor should discuss categories of behavior the teacher might have neglected. He should also focus on the strengths and weaknesses of the teacher's use of each behavior.

The supervisor should suggest that the teacher practice many of the model gestures and facial expressions with the aid of a mirror before presenting his microteaching lesson.

Cueing

It would be difficult for the teacher to practice all forms of cueing in any one microteaching lesson. The teacher should select the specific techniques he wants to use and leave the others for subsequent lessons.

It may be desirable to schedule a private cueing session in a one-to-one situation following the microteaching lesson. This gives the teacher a chance to practice in a way similar to that demonstrated in the model film.

The supervisor should ask the teacher for lesson plans that include the use of cueing. After the actual lesson, the supervisor and the teacher should discuss the extent to which the plans were effective.

PRESENTATION SKILLS

Completeness of Communication

The purpose of this exercise is to sensitize teachers to student cues of miscommunication and confusion. If teachers have already acquired the skills of questioning, set induction, and recognizing attending behavior, they will be more sensitive to completeness of communication. Once they have learned to communicate clearly, they will be motivated to learn the related skills of lecturing, use of examples, and planned repetition.

The teacher's task is to give only verbal directions for the drawing of a geometric pattern. About 50 geometric patterns are provided for use in practice lessons. More patterns can be added. We suggest that the teachers begin with these patterns, making necessary adjustments if they prove too easy or too difficult.

Each teacher should be given one pattern to communicate to his students. The students should not have practiced drawing the same pattern in an earlier microteaching session. Care must be taken to arrange microteaching schedules so that each pattern will be new to each group of students. When the teacher is ready to prepare his reteach lesson, he should be furnished with a different group of students.

During the lesson the supervisor should be watching both the teacher and the students. He should note and later discuss the occasions on which students were confused, the clarity of the verbal directions, and the teacher's use of student feedback.

Along with supervisory notes, the students' attempted reproductions of the pattern provide useful information regarding the clarity of the teacher's directions. For example, the teacher may have indicated that one rectangle was to the left of two others (already drawn), but failed to say how far to the left. The students' drawings will indicate the failure. The replay of a video tape reveals ambiguous instructions and points out where the teacher neglected to perceive student confusion.

Microstudents may be prompted to look at other students' drawings to see how they compare with their own. Seating should be arranged to preclude this possibility. Furthermore, the teacher should not see the students' drawings during the lesson. He must depend on the students' verbal cues for feedback.

Lecturing

Although overused, lecturing is a desirable skill for a teacher to have. The ills associated with lecturing stem primarily from inappropriate and ineffective use of the skill. Lecturing has an important but limited function; it should not be used as an all-purpose instructional strategy. The supervisor should require every teacher to provide a rationale for lecturing. If the objectives could be better achieved by some other means, the supervisor should point this out and help the teacher understand why.

Use of Examples

The film shows a model teacher using examples deductively. We recommend that the teacher practice this skill using both the inductive and the deductive approaches. Since most teachers feel more comfortable with deduction, they should be urged particularly to practice induction.

The supervisor should encourage appropriate use of analogies and examples.

Planned Repetition

Planned repetition is a skill that requires careful use. On the one hand, the teacher wants to structure situations to encourage overlearning and relearning. But on the other hand, the teacher doesn't want to "beat a dead horse" with constant repetition. The microteaching supervisor will find that some teachers do not repeat enough and that others bore the students with repetition. The supervisor must be alert to these two extremes. Student evaluations are a good means of determining whether there has been too much or too little repetition. Thus, students might be told ahead of time to watch out for this characteristic of the lesson.

If continuity from lesson to lesson is important, the supervisor should be particularly alert to the possibilities of repetition. In the actual classroom situation, an effective teacher uses the skill in several sessions. In essence, the teacher reviews previous material by repeating, or having students repeat, main ideas. If these ideas have been forgotten, they may be relearned as a result of repetition.

The supervisor should tally the different kinds of repetition the teacher uses during the lesson. It may be that not all the categories are used. The teacher should practice omitted categories in another lesson.

EVALUATION

How You Can Help Us Evaluate the Program:

Frequently we will ask you as students to complete a questionnaire designed to give us some evaluative feedback as to how we are or are not serving you. Please cooperate by giving us your constructive criticisms.

The evaluation might take this semblance:

Directions: Make whatever comments you wish regarding the topics listed below. Indicate if you thought it was adequate, poor, or good.

SUPERVISION:

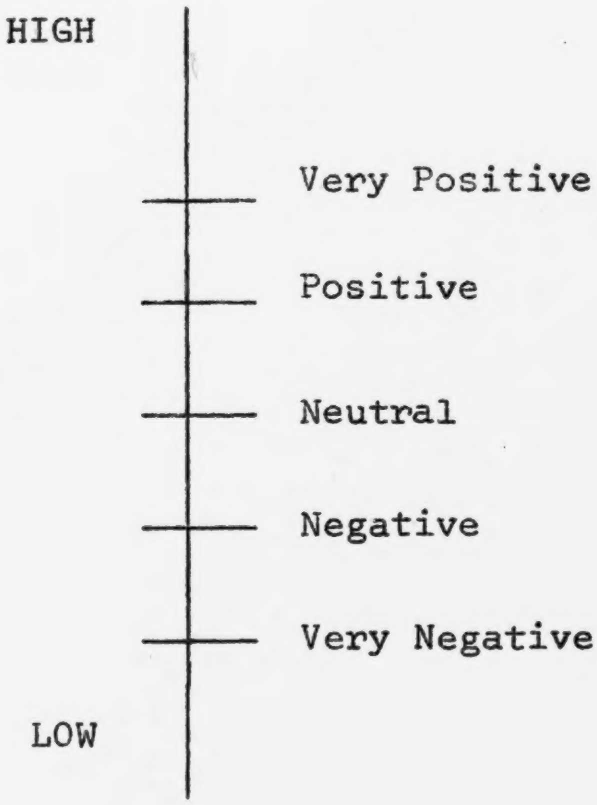
STUDENTS:

VIDEOTAPING EQUIPMENT:

LARGE GROUP PRESENTATIONS:

What are the major changes that you think would improve microteaching?

How do you rate your overall microteaching experience this semester? Indicate your rating by an X at some point on this vertical line.



Evaluating Your Performance - And Ours:

What are the various sources of feedback that we use in evaluating your performance?

The clinic operates on the principle of immediate reinforcement and feedback. In analysing and evaluating your performance, we use the following:

1. Videotape recording. A complete recording of your microteaching is made and portions are replayed for you immediately following your lesson. Some points are chosen for special emphasis. These are analyzed, discussed, and constructive suggestions are made.

2. Pupil evaluators. These are students (high school) who have been oriented to their task and well trained in the use of the Teacher Performance Appraisal Scale.

3. Peer evaluation. Your microteaching team members will also participate in the evaluation through utilization of the Teacher Performance Appraisal Scale.

4. Your assigned supervisor will also utilize the Teacher Performance Appraisal Scale in evaluating your teaching. He is your most potent source of feedback; especially with regard to items which cannot be adequately covered by the evaluation sheet.

5. Teacher Performance Appraisal Scale. It is also probable that special evaluation sheets indigenous to each skill will be employed. (See examples in this section.)

SAMPLE EVALUATION SHEETS:

EVALUATION SHEET: FLUENCY IN ASKING QUESTIONS

Teacher ______________________________ Date ________________

Observer ______________________________

Teach ______________ Reteach ____________

Students, Supervisors, and Teachers:

1. Who did most of the talking during the lesson -- the teacher or the students?

2. What kind of talking did the teacher do?

3. How would you describe the teacher's activity during most of the lesson? What was he doing?

4. Did the teacher ask many, few, or an average number of questions?

Comments:

EVALUATION SHEET: PROBING QUESTIONS

Teacher ______________________________ Date ______________________

Observer _____________________________

Teach _____________ Reteach __________

Students: (optional for Supervisors and Teachers)

1. Did the teacher seem to accept most of the answers to his questions?

   If not, why not?

2. Did you feel that the teacher's questions were different from most teachers' questions?

   If so, in what way were they different?

Supervisors and Teachers only:

1. Did the teacher ask questions that required the students to give more information or to clarify answers (e.g., "What do you mean?" or "Can you explain that further?")?

2. Did the teacher ask questions that required students to justify their responses (e.g , "What are we assuming here?" or "Why do you think this is so?")?

3. Did the teacher ask questions that required students to relate one issue to another (e.g., "What are the implications of this for...?" or "How does this relate to...?)?

4. If a student gave a noncommittal answer (e.g., "I don't know," or "I'm not sure"), did the teacher provide him with the answer, ask another student, or give the puzzled student a hint so that he could answer part or all of the question?

5. Did the teacher ask questions that brought students into the discussion by encouraging them to respond to other students' answers (e.g., "Mary, do you agree with John's answer?" or "Can you add to that, Mary?")?

Comments:

EVALUATION SHEET: HIGHER ORDER QUESTIONS

Teacher ______________________ Date ______________

Observer ______________________

Teach ______________ Reteach ________

Students: (optional for Supervisors and Teachers)

1. Could you answer the teacher's questions by just remembering facts or details?

   If not, why not?

2. Were the teacher's questions interesting or dull?

   Were they challenging or easy?

3. Did you feel that the teacher's questions were different from most teachers' questions?

   If so, in what way were they different?

Supervisors and Teachers only:

1. Did the teacher ask questions that required the students, first, to set standards, and second, to answer in light of those standards?

2. Did the teacher ask questions that required the students to make inferences based on previously-learned information?

3. Did the teacher ask questions that required the students to determine whether ideas, persons, or things were similar, different, unrelated, or contradictory?

4. Did the teacher ask questions that required the students to use concepts, principles, or ideas in a situation different from that in which they were learned?

5. Did the teacher ask questions that required the students to use previously-learned knowledge in order to solve a problem they had not faced before?

6. Did the teacher ask questions that required the students to look for relationships between events and persons, objects, ideas, or other events?

omments:

EVALUATION SHEET: DIVERGENT QUESTIONS

Teacher ______________________________ Date ____________

Observer ______________________________

Teach ______________ Reteach __________

Students, Supervisors, and Teachers:

1. Did the teacher ask questions that required the students to think imaginatively?

2. Did the teacher ask questions that required the students to think about situations they hadn't thought of before?

3. Did the teacher ask questions for which there were no "right" or "wrong" answers, but many possible responses?

4. Did the teacher's questions sometimes make the students feel uncomfortable? Were the students ever unsure of what the teacher wanted? When? Why?

5. Did the students feel that the teacher's questions were different from most teachers' questions?

   If so, in what way were they different?

Comments:

EVALUATION SHEET: SET INDUCTION

Teacher ______________________________ Date ____________________

Observer ______________________________

Teach ________________ Reteach __________

Students: (optional for Supervisors and Teachers)

1. How interesting was the teacher's introduction?

2. To what extend did the introduction inspire you to study the main part of the lesson?

3. Would the teacher's introduction be likely to help you remember the material covered in the main part of the lesson?

Supervisors and Teachers only:

1. How clear was the relationship between the introduction and the main part of the lesson?

2. To what extent did the teacher provide guides or cues in the introduction to help the students understand the main part of the lesson?

   Give some examples:

Comments:

EVALUATION SHEET: STIMULUS VARIATION

Teacher ______________________________ Date ________________________

Observer ____________________________

Teach ______________ Reteach __________

Students, Supervisors, and Teachers:

1. How often was the teacher in the back of the room?
   At the left side of the room?
   At the right side?
   Among the students?

2. What kinds of gestures did the teacher use to convey meaning?

3. Did the teacher vary the kind of participation required of the students?
   Were questions asked of individuals?
   Were questions asked of the class as a whole?
   Did students ever interact with each other?

4. Did the teacher use silence at appropriate times to give the students an opportunity to think or to prepare for new material?

5. Did the teacher use visual material, such as a word on the chalkboard or a picture, in such a way that the students had to look to get the information?

Supervisors and Teachers only:

1. When the teacher wanted to emphasize a point, did he clearly stress it through gestures, verbal expressions, or combinations of both?

   Give examples:

Comments:

EVALUATION SHEET: CLOSURE

Teacher ________________________________ Date ____________________

Observer ______________________________

Teach ________________ Reteach ________

Students, Supervisors, and Teachers:

1. Did the teacher review major points throughout the lesson?

2. Did the teacher connect the lesson material with previously-learned material and with future learning?

3. Who summarized the lesson?
   What was included in the summary?

4. Did the teacher give the students opportunity to demonstrate what they had learned?

   How?

Supervisors and Teachers only:

1. Did the teacher provide connections between concepts and between examples before moving on to other material?

   Give examples:

Comments:

EVALUATION SHEET: REINFORCEMENT

Teacher ______________________________ Date ________________

Observer ______________________________

Teach ________________ Reteach ________

Students, Supervisors, and Teachers:

1. When a student answered a question correctly or asked a good question, did the teacher reward him with such words as "Fine," "Good," "Excellent?"

   List the words the teacher used and the number of times he used each:

2. What nonverbal cues (e.g., a smile or a nod of the head) did the teacher use to encourage his students?

3. When a student gave an answer that was only partially correct, did the teacher give him credit for the correct part?

4. Did the teacher ever refer to the positive aspects of a student's previous response?

Comments:

EVALUATION SHEET: RECOGNIZING
ATTENDING BEHAVIOR

Teacher ______________________ Date ______________

Observer ______________________

Teach ___________ Reteach _______

Supervisors and Teachers only:

Check the category which best describes each student's attending behavior during the lesson. Also list specific behaviors you saw for each student. Code: A = all of the time; M = most of the time; U = undecided; S = some of the time; N = none of the time.

Student	A	M	U	S	N	Specific Behaviors
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

EVALUATION SHEET: SILENCE AND NONVERBAL CUES

Teacher ______________________________ Date ____________

Observer ______________________________

Teach ____________________ Reteach ______

Students, Supervisors, and Teachers:

1. Did the teacher allow the students to do most of the talking?

2. Did the teacher remain quiet after asking a question, thus allowing the student time to think about his answer?

3. Did the teacher communicate with facial expressions, gestures, and body movements?

4. Was the teacher able to direct and control the discussion without speaking very often?

5. Was the teacher attentive? Did the teacher seem interested in what the students had to say?

6. Did the teacher make an effort to include as many students as possible in the discussion?

Comments:

EVALUATION SHEET: CUEING

Teacher ______________________________ Date ________________

Observer ______________________________

Teach ________________ Reteach ____________

Students: (optional for Supervisors and Teachers)

1. Did the teacher give students enough time to think of answers to questions? Too much time?

2. Did the teacher give enough hints to help students answer questions?

Supervisors and Teachers only:

1. What strategies did the teacher employ? Discuss his use of each strategy.

Comments:

EVALUATION SHEET: COMPLETENESS OF COMMUNICATION

Teacher ________________________________ Date __________________

Observer ______________________________

Teach _______________ Reteach __________

Students, Supervisors, and Teachers:

1. Was the teacher's language easily understood by the students?

2. Were there times when the students weren't sure what they were supposed to do?

   When?

   How could you tell?

3. Did the teacher make any attempt to find out if the students understood his directions?

   How?

Supervisors and Teachers only:

1. What could the teacher do to improve his instructions for drawing the pattern?

Comments:

EVALUATION SHEET: LECTURING

Teacher ______________________________ Date ______________

Observer ______________________________

Teach ______________ Reteach __________

Students, Supervisors, and Teachers:

1. Did the teacher use any audio-visual aids? If so, what? Did these aids help clarify or emphasize the main ideas in the lecture?

2. What did the teacher do to vary the stimulus situation?
   Did he use gestures?
   Did he pause occasionally?
   Did he move about?
   Did he vary the pitch and tone of his voice?
   Did he vary his speed of delivery?

3. Did the teacher use language the students could understand?

Supervisors and Teachers only:

1. Was the lecture an appropriate technique for the material?

2. Did the teacher allow adequate time for discussing the purpose of the lecture?

   For discussing the main content of the lecture?

   For summarizing the main ideas?

Comments:

EVALUATION SHEET: USE OF EXAMPLES

Teacher ______________________________ Date ____________________

Observer ______________________________

Teach ________________ Reteach __________

Students: (optional for Supervisors and Teachers)

1. Did the teacher start with simple examples?

2. Did he work up to complex ones?

3. Did you understand the examples?

Supervisors and Teachers only:

1. To what extent were the teacher's examples within the range of the students' knowledge and experience?

2. Did the teacher directly relate specific examples to the main point they were supposed to illustrate?

3. Did the teacher check to see if the students understood the main points of the lesson by asking the students to give examples illustrating the points?

Comments:

EVALUATION SHEET: PLANNED REPETITION

Teacher ______________________ Date ______________

Observer ______________________

Teach ____________ Repeat __________

Students, Supervisors, and Teachers:

1. Once the teacher had introduced new ideas, did he repeat them during the lesson?

2. If so, did repetition of the ideas help the students remember them?

3. Did the teacher summarize the main ideas at any time during the lecture?

4. Did the teacher bore students by repeating ideas too often? If so, give an example:

Supervisors and Teachers only:

1. Did the teacher use any of the four patterns of literal repetition?

   Which ones?

2. What were his strengths and weaknesses in the use of the pattern (s)?

Comments:

Material excerpted from Dwight W. Allen, et al., Teaching Skills: Supervisor's Manual, New York, General Learning Corporation, 1969, pp. 26-59.